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LLAMA LAND

*East and West of the Andes
in Peru*

By

ANTHONY DELL

Author of "ISLES OF GREECE"

WITH ILLUSTRATIONS FROM PHOTOGRAPHS
BY THE AUTHOR



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LLAMA LAND

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WESTPORT

FOREWORD

The journey described in the following pages was only rendered possible in the time at my disposal through the help extended to me by all classes in Peru, from the President to the humblest of his fellow citizens, and by my own countrymen as well as Peruvians. It has been impossible to refer to them all in the body of the book, but I hope the reader will gain from it some idea of the kindness with which the traveller is received in this fascinating land.

ANTHONY DELL.

London.

October, 1926.

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LLAMA LAND

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CHAPTER I

FROM THAMES TO TRINIDAD

WHEN I told my friends I was going to Peru they became flippant. The most staid and serious immediately quoted Limericks about young men of Peru who had nothing to do and sent snakes to the Zoo. Others made puns about Peruvian bark and several declined altogether to believe that Peru really existed anywhere but in a poet's fancy. I am still unable to understand why Peru, of all the countries in the world, should be treated as a geographical joke, but I know to my cost that it is.

Two or three people treated me seriously. One Fleet Street man said all he knew about Peru was that it was where ink came from. I asked him if he were not thinking of "Incas" rather than "ink." He said it might be so. He knew he had heard of Peru in connection with something allied to ink.

Another journalist said I did well to go to Peru. I should be a missionary of Empire.

"How so in Peru?" I asked.

"Why, isn't Peru part of the British Empire?" he demanded.

He was nonplussed to learn that Peru had somehow or other escaped absorption. "If it doesn't belong to us then," he said, "I suppose it belongs to the United States."

My literary agent had heard of Peruvian condors, cannibals

and crocodiles. She desired me to leave in London a full power of attorney. "Your return being so doubtful," as she explained.

The first shipping agent I consulted confessed himself quite in the dark as to how one travelled to Peru. "We have never booked a passage there," he said. He declared that I should in any case have to change ship at Panama; but after some searching discovered an Italian line which sailed from Genoa direct to Callao. Callao, I had explained to the agent, was the port of Lima, the capital of Peru. I thought it an excellent idea to begin the voyage from the Riviera and to sail immediately out of the Mediterranean into lower latitudes.

Perhaps I was influenced by the fact that Columbus was a Genoese and also sailed from Spain. The Genoese ship I selected was to call at Barcelona and take her last sight of Europe at Gibraltar. Thence she would skirt the coast of Africa to Teneriffe and from there run down the trades to Trinidad. Who could resist the idea of first setting foot in America at Trinidad, so named by Columbus himself when he sighted its three hills on his third voyage?

So it came about that I left England for Peru by way of Newhaven. A thick mist shrouded the Seven Sisters as we left the harbour and spared us a pang, for no one would willingly leave the chalk cliffs of Sussex astern when they are shining under an April sun. Further out the sun was indeed shining, but the coast of England was already below the horizon.

Dieppe was showing up ahead when we began to overhaul a sailing boat whose bellying topsail instantly made me think of the Overland Passage into London River.

"Why, she is like a Thames barge," I said to a sailor.

"That is what she is," he replied, "an old Thames spreety bound for Dieppe."

A westerly breeze was carrying her forward at a good speed. Her red sails shone like copper and her great sprit, newly scraped and varnished, sparkled in the sun. I watched her as we overhauled and passed her, for of all the rigs in the world there is none which makes the same appeal to the Londoner as the Thames sprit-sail barge. With regret I saw her topsail dim and fade away in our wake for I knew that with her had vanished the last sight of home.

The next morning I was crossing the French Alps into Italy and some time after dark reached Genoa. Outside the railway station stands the statue of Columbus and from a little way down the street can be seen the funnels of the ships in harbour.

We sailed for Peru at three o'clock the next afternoon. No mist veiled the exquisite city of Genoa from the eyes of the Italian exiles on board. Some were so much affected that they went down to their cabins.

"I am going out for five years," said one young engineer afterwards. "If I had as much as looked at Genoa as we went out of the harbour I should have jumped overboard."

The ladies heartily agreed with him, and a day among the splendid shops of Barcelona failed to revive their spirits. The lordly peaks of the Sierra Nevada, which we passed at sunrise, were not worth a glance, and even Gibraltar failed to interest.

When the great Rock was astern and Tangier coming up to port the ship was the home of lamentations loud and shrill. A long Atlantic swell gave a physical poignancy to the general unhappiness.

Two days later the Peak of Teneriffe rose on the starboard bow. The sun was setting as we approached the island and Sugar Loaf Rock off the north coast was silhouetted against a flaming sky. In a few minutes the colour faded and we drew under tall blue-grey cliffs already shadowy in the dusk. The

lights of Santa Cruz gleamed ahead, but while still a good way from the town we dropped anchor. Cargo and coal lighters came alongside and we resigned ourselves to a night of dirt and noise.

It was at Teneriffe, according to Dante, that Ulysses was wrecked. He makes the hero say that on his way home from Troy he passed the Pillars of Hercules to explore the unpeopled world behind the sunset. Keeping his helm astarboard he sailed south-west for five months. The stars of the southern hemisphere rose over the bows and the Pole star disappeared below the sea astern. At length, at the fifth moon, Ulysses saw ahead a mountain, blue-grey in the distance and higher than any mountain he had ever seen. At the same moment the vessel was caught in a race off the shore and after spinning round three times sank by the head.

The high mountain is held to be the Peak of Teneriffe, but five months is rather a long allowance for the voyage from Gibraltar. In fact, Dante puts Teneriffe much further south than it really is, for in latitude 28° N. the Pole star is well above the horizon.

We sailed from Santa Cruz, at 7 o'clock, on a bright spring morning. In the town we could see the tops of palms and other trees, but the south coast of the island was composed of bare, red, volcanic rocks. We saw the opening into the crater on the Peak, and about the middle of the morning passed Red Point. Here were many flying fish, some about a foot in length and others smaller. They darted up from under the bows and skimmed away in flashes of silver over the waves, finally dropping with a sudden plop into the water. Seagulls followed us for some distance and then left us and shoals of porpoises played alongside.

In the channel between Teneriffe and Gomera Island we

met a north-westerly wind and swell, but soon we ran under the lee of Gomera into smooth water.

When fitting out his expedition to Peru under royal licence in January 1530 Pizarro heard that officers of the Council of the Indies were coming to Seville to examine his three vessels and see how far the expedition complied with the conditions of the charter. Having good reason to fear the result of their inquiry—for he had raised less than the stipulated number of recruits—Pizarro slipped his cables and told his brother Hernando to follow with the two other vessels to Gomera.

The officers when they arrived at Seville, were told by Hernando that the remaining men had left with his brother. He was permitted to follow, and the three ships, containing the force which was to overthrow the Empire of the Incas, met at Gomera as arranged.

Beyond Gomera is Hierro, or Iron Island, the westernmost of the Canaries and the last point of land to be seen in the Old World. Close to its red cliffs a ship's compass sometimes veers from true, owing to the large amount of iron present. On account of its position west of Europe and east of America, Hierro was adopted in the 17th century as the prime meridian, that is the zero of longitude, for Europe. This was in accordance with Arab geography which used the Canaries, or Fortunate Isles, for reckoning longitude. Thus at noon, our position would have been Lat. $27^{\circ} 27' N.$; Long. 0° , instead of Lat. $27^{\circ} 27' N.$; Long. $17^{\circ} 07' W.$ as it was actually recorded.

No one leaving Europe can look on the cliffs of Hierro with absolute indifference. On its inhospitable hills are patches of light green verdure, and here and there a few white houses. Ahead of the ship is the open Atlantic, and when Hierro disappears astern we shall see no speck of green and no human habitation until, all being well, we arrive at Trinidad.

As soon as the westernmost point of Hierro was abeam we felt again the northerly swell; but the long Atlantic rollers after their journey from the higher latitudes had grown mild and harmless and only gave a slight motion to our ship.

That evening a few swallows, borne westward out of their course for Europe, alighted on the ship and flew round and round, twittering, trying to find a foothold on the spars or rigging out of reach of the cats. Next morning a tropic-bird (*Phaëthon æthereus*) was sailing close abeam. This is one of the most beautiful sea-birds of the tropics. It is white like a tern, and from the outer edges of its tail project two narrow hair-like white feathers longer than the whole body of the bird.

When the last land has disappeared astern and the ship is a little world to herself for ten days to come, her deck becomes a stage, and her passengers and officers take up their parts as characters in an ocean comedy. As in most comedies ashore there are here at sea traditional rôles which must be filled. There are reigning beauties who must be wooed, and young gallants (among whom the ship's doctor is invariably one) who must woo them. There is at least one comedian, one storyteller, one ship's idiot, and one perfect bore. There are also couples to provide food for the scandalmongers, dark horses about whom nothing can be gleaned and others whose life story is at the disposal of every one who cares to listen. There is the man who elects himself President of the Sport's Committee, sets all the others to fatiguing exercise and then retires to a deck chair and a long drink; and the man who wants to see a real storm and is absent from dinner at the first hint of swell.

Conversation on shipboard is in the best tradition of the modern theatre. It begins nowhere and ends in the middle. People drift into each other's neighbourhood and one button-holes the other. As the Italians say, he "sews on a button."

When the button is well sewn on the sewer drifts away to find a fresh victim. Or possibly, before he has completed his task, the other sees his chance and makes his escape. The sewers of buttons are very early recognised; by close study of the geography of the ship they can often be avoided.

Every one soon knows the tricks of this geography, and the chief points of encounter. Near these vantage posts waiting gallants will usually be found. Late in the evening, however, the neighbourhood is generally deserted by all but the button-sewer. He alone prowls up and down in search of his prey.

The majority of the passengers were bound for Peru, and I found that although each one regarded his own future there seriously enough in connection with electrical works, dry goods stores or banks yet the word "Peru" was as much a joke in Italy as in England. The nature of the joke is however different. In Italy anything or anybody of inestimable value is said to be "worth a Peru."

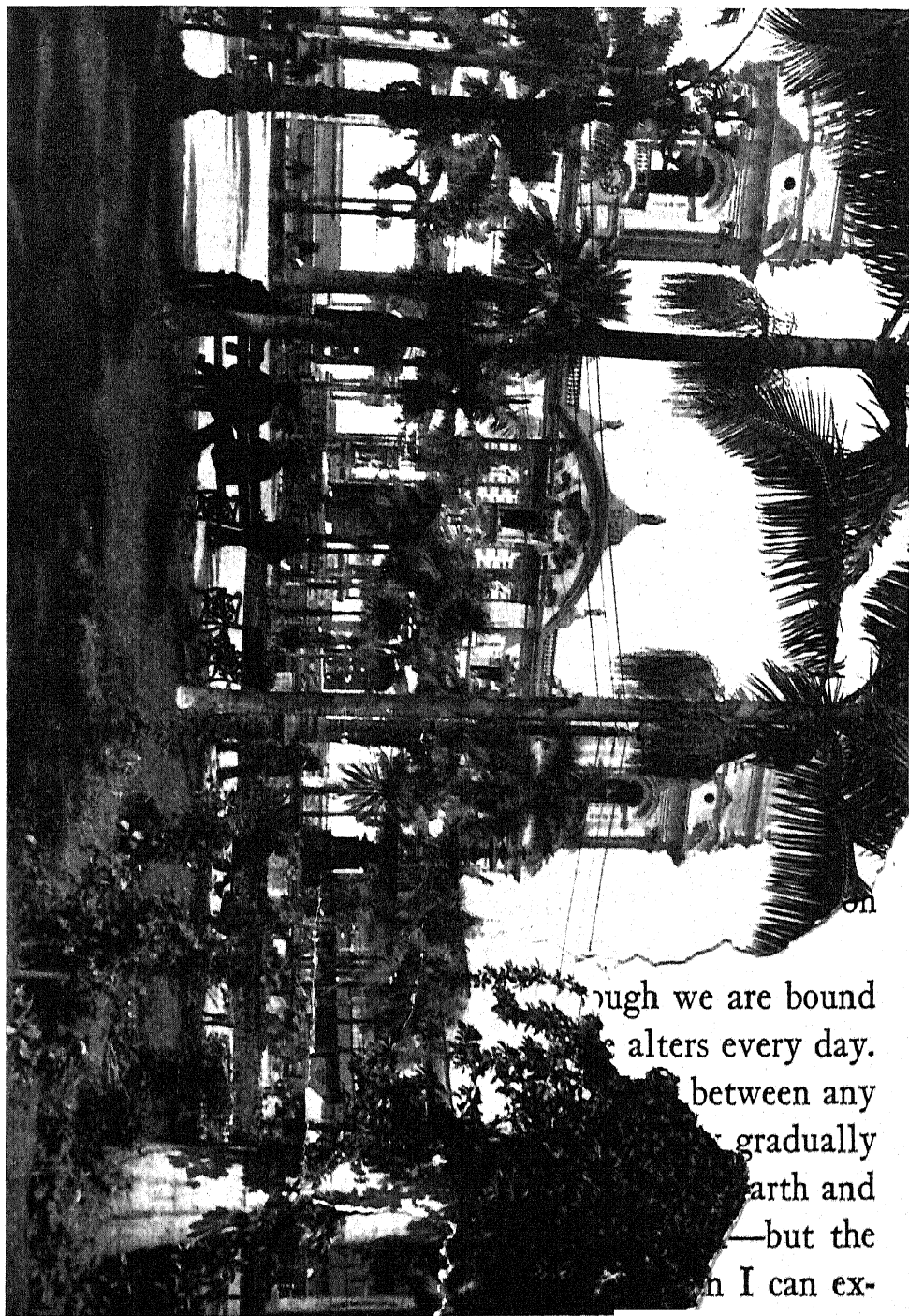
In France, according to a French passenger, it is sufficient explanation for an unusual display of wealth to say, "Oh, I have just come from Peru."

On the second day out from Teneriffe we picked up the trades. The wind veered round to the stern and followed us all the way across the Atlantic. The sea continued slight, but not quite smooth, for the trade wind made a following sea, and the longer north-westerly swell still cut across it. The ship was however practically steady. On the fourth day we crossed the Tropic of Cancer, our position at noon being $23^{\circ} 05' N$; $34^{\circ} 06' W$. It was now a good deal warmer. Awnings were up everywhere and flannels and drill suits began to make their appearance. The day was the anniversary of the foundation of Rome. Flags flew at the fore and main trucks and at the stern; in the evening there was high carnival.

PLATE II.

LIMA.

The Plaza de Armas looking towards the Cathedral.



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A landsman finds the routine of navigation fascinating to watch from the bridge. In the morning the compass on the upper bridge is tested by the sun to show the amount of variation. This decreases each day as we go west. An instrument is placed on the dial of the binnacle which reflects the sun as a point of rainbow light on the compass card. The point at which the sun should fall at that moment is known from the azimuth tables and the difference is the variation of the compass. The steerman's compass on the bridge below has usually a different variation, and the course which he steers is only arrived at by several additions and subtractions.

At noon there is a great assembly of officers, sextants in hand, to take the sun's position; and in the evening as soon as the dusk has fallen the officer of the watch begins to look for three or four bright stars to take another observation. It is a solemn thought that the calculations which follow not only keep the ship's nose on her course for Trinidad, but tell the head steward exactly how many minutes later breakfast must be on the following day.

It is puzzling at first to find that although we are bound direct from Teneriffe to Trinidad our course alters every day. At sea a straight line is not the shortest distance between any two points. We set off almost due west and only gradually worked south, for owing to the configuration of the earth and the fact that degrees of longitude are not parallel—but the reader probably understands this much better than I can explain it.

Nobody on board would accept my explanation of the matter, but several people gave demonstrations on their own account with oranges and pieces of string. The lady passengers were only faintly interested, but there was some competition

among them to be allowed on the bridge to see the observations taken of the stars.

Certainly stars have their uses, apart from navigation. The officers, too, are so obliging in pointing them out to a lady who does not know a star from a street lamp.

He tells her that over the bows he can see Sirius gleaming through the afterglow of the sunset. She asks where.

"Follow the direction of my finger," he says, and she carefully looks along his arm.

"Above Sirius away from the sunset is Procyon," he continues, "and to the right where the sky is still red is Betelgeuse in Orion, making a triangle. Do you see the four corners of Orion?"

The lady passenger only sees them with difficulty and by the time she does so it is dark and the sword and belt are visible.

"Do you see now the belt of Orion?" asks the officer, and happy is he if the passenger is of different nationality and he has to explain to her what a belt is.

The stars smile down upon teacher and pupil. They know the sailor as well as he knows them—sometimes better.

The moon was new the night we reached Teneriffe and soon after we passed the Tropic of Cancer she shone brightly on spars and deck. The bridge then became a place of enchantment after dark. There was just light enough to show the forecastle swaying to the swell, but not enough to disclose its less romantic features. Each night as the moon grew the bows became brighter, until at last they shone like silver as they swung slowly backwards and forwards across the horizon. Below them in the shadow on the starboard side the water was black and the foam a dull grey, but ahead in the moonlight every ripple was clear.

At every half hour the bells are struck by the steersman,

and an echo comes from the crow's nest where the look-out is stationed. At two-hour intervals one sees a dark form climbing up the rigging to the crow's nest; and after a moment or two the man whose watch is over is seen climbing down.

Six bells strike—eleven o'clock. One continues to watch the foremast travelling across the stars and back again, while the officer of the watch yarns about his escapades ashore.

In about five minutes, as it seems, eight bells are struck. The steersman is relieved, and as he passes the officer on his way below, he tells him the course. The officer too is relieved, for it is midnight and his four hours on the bridge are over. The middle watch has begun.

Two nights after we entered the tropics I saw from the bridge some stars in the south which I did not recognise. There were two bright ones and further to the west four others in the form of a lozenge, with a little one between two of them.

The officer told me that the two bright stars were the Centaurs. The others he was not sure about.

"It is the Southern Cross," said the Marconi operator coming out of his cabin at that moment.

The navigating officer denied it and we had recourse to the star chart. It showed clearly enough, the Southern Cross close to the Centaurs, and the officer was convinced.

Too much has been said against the Southern Cross. The stars are not of the first magnitude and are outshone by the two Centaurs close by. But they form a well-marked constellation, easily recognisable, in spite of our officer's lapse. Perhaps he had been on the New York service for some time. One can well understand the affection of Australians for the Cross, for which of us likes to see our faint Pole Star dipping under the sea?

Two nights later Canopus was visible for a short while after

sunset in the south-east. This is one of the finest stars of the southern hemisphere, and is almost as bright as Sirius.

Echoes of the outside world reached us every morning in the form of the official wireless bulletin from England, but the news though often important failed to impress us as much as an event happening on the ship. When the prettiest woman on board appeared at dinner with her hair bobbed she caused more comment than the fall of an empire. Everybody asked everybody else his opinion on the change; the Captain was heard to declare that to bob a Perugino Madonna was desecration.

Another lady made herself famous by secreting one of her six dogs in her state-room. Four puppies shortly afterwards made their appearance. Three went over the side, but the fourth was allowed to live. His mother in her anxiety for his welfare bit the stewardess and the Captain was informed. The expulsion of mother and offspring to the fore-castle was decreed, and in spite of the tears of the owner this was carried out. The lady's chair was empty at dinner and a whisper went round the saloon, "A hunger strike—like the English suffragettes!"

Somewhat to the general disappointment the strike only lasted till luncheon next day. It had been hoped that the lady would hold out for some days at least. But sea air gives an appetite which it is hard to resist.

All the way across the Atlantic we saw no sail nor smoke upon the horizon. After the swallows and tropic bird had flown away there were not even birds to watch, except once a brown bird like a skua or large petrel, and another dark above and white below. This one seemed to have a long tail, but through the glass one could see that the end of the tail was really the bird's webbed feet.

One sail we did see. I was on the bridge when the officer cried;

“See, an Argonaut!”

It was a nautilus, with its sail raised, drifting before the wind. The sail is composed of a fan-shaped membrane which the nautilus can raise or lower at will. This one was about a foot in diameter. It was transparent, and when it caught the sun it reflected a rose-blue colour. The little ship with its opal sail rose to the crest of the waves and ran down into the troughs and was soon dancing in our wake astern. Sometimes the sea is covered with thousands of these nautiluses with sails spread. Both English and Italian seamen call them “Portuguese men-of-war.” We only passed two or three—perhaps the light cruisers of the fleet.

The next day there was an undercurrent of excitement on board, for we were due to make land in the afternoon. We already felt a current which here sweeps westwards into the Caribbean sea and about the middle of the morning the sail of a fishing boat was seen to the south. Soon afterwards flocks of little black petrels, with a white patch over their tails, appeared at the stern and followed us shorewards turning and wheeling behind the ship like swallows.

At eleven o'clock I was on the upper deck below the bridge when the Second Officer looked down and said, “Land is in sight.”

Sure enough, on the port bow the grey outline of Tobago could be seen on the horizon. It was for many the first sight of America and we watched with eagerness the hills growing clear and dark and the tree tops beginning to stand out on the skyline. By one o'clock the easternmost rocks were abeam and we began to run along the northern shore. Several brown gannets and tropic birds came out to meet us and close to the ship we saw the black fin of a shark. Its long brown body was visible just below the surface. The hills were well wooded to

the east but became barer towards the west. When we passed the low western point of Tobago we saw in the south-west the hills of Trinidad. They were not the three hills seen by Columbus; these lie to the south of the island.

Trinidad like Tobago turned out to be well wooded. It was evening as we approached. The sun was setting on the starboard bow and the full moon was rising over the port quarter above the hills. For a few moments the eastern sky near the moon was that magical heliotrope colour only seen at sunset on the night of the full moon; but it may be seen just as well in Europe as in America.

If one must go to America however, one should first make Trinidad and enter the Dragon's Mouth, as we did, by moonlight. Port of Spain lies on the west coast, and to reach the harbour one must pass through one of the various channels forming the Bocas de Dragos. Most ships pass through the Boca Grande between Trinidad and the coast of Venezuela. The other channels, of which there are three—Boca de Navios, Boca de Huevos and Boca de Minos—are narrower and there are strong currents.

Our captain, a tall man with dark Tudor beard and the courtly manners of a Raleigh, preferred, when possible, to enter by the Boca de Minos, the narrowest and most tortuous channel of all. It was his habit, I was told, to stand upon the bridge, with his little fox terrier on a table by his side, and to run at full speed through the windings of the Boca. In some places there are rocks in mid-channel, but it is impossible to go at half speed on account of the current, which would take charge of the ship and swing her ashore unless she was under full steam.

When we reached the entrance it was already dark, and the captain had to forgo the pleasure of startling the local inhabitants by appearing suddenly in his big ship between the

reefs. He was forced to make for the Boca de Huevos, which has a rather broader and straighter channel. A light flashed on the island of Chacachacare ahead as we drew in towards the land, and soon we were swallowed up in the shadow of the cliffs. They seemed ready to touch us on both sides, but moonlight gleamed on open water ahead and soon we were through the channel and steering south towards the lights of Port of Spain. We passed the "Five Islands," a cluster of wooded rocks with a few houses and a hospital on them, and dropped anchor in shallow, muddy water about two miles from the town, some hours before we were expected. Our agent thought the captain would take us round through the Boca Grande after dark.

CHAPTER II

PANAMA AND THE PACIFIC

AS soon as the doctor had passed us I went ashore in the agent's launch. As I landed at the Custom House a puff of hot, close air struck my face and I made a mental note that the climate of America was sultry. Beyond the quay wide, tree-planted avenues lay bathed in moonlight and palms cast unfamiliar patterns of shadow on the ground. The languorous air, the scent of strange flowers and the promise of strange sights by morning light, quickly cast the spell of the tropics over me and I decided to sleep on shore and take a drive through the island at sunrise, before the ship sailed.

At the corner of each block stood a policeman, as black as his own shadow, and one of these directed me to a hotel. Here a negro porter conducted me upstairs to a gallery overlooking a garden in which tropical plants were growing. The bedroom was entered from the gallery; it was a lofty chamber and the walls did not reach to the ceiling, so that one learnt a good deal about one's neighbours during the night. The door was only a shutter five feet high, and above this one could see from the bed the tops of the trees in the garden and the moonlight playing on them.

I was watching the moonlight as I fell asleep and almost immediately, as it seemed, awaked to see the negro porter's head over the screen, with white sky behind, and hear him say that the car I had ordered would be round in half an hour. Before that time I was breakfasting off coffee, toast and tropical fruits. One of these fruits was the colour of a potato and the

shape of an egg. When you cut it open you find a large black seed inside. The flesh of this fruit (a kind of medlar) is sweet, but has not a strong flavour.

A man is indeed fortunate who, coming from the North, wakes for the first time in the tropics at Port of Spain. In a few minutes after leaving the hotel my car came to the edge of a broad green park, bordered by trees of which I did not know the names and surrounded by gardens blossoming with strange flowers.

Never in my life, outside a Botanical Garden, had I been in a place where all the trees and flowers were unknown to me. And here even the birds were not what I took them to be at first sight. The starlings digging in the grass were not proper starlings. I had never heard such chatter as theirs except in the tropical aviaries at the Zoo, and when they flew away they developed long tails.

On the branch of a tree from which hung great showers of golden blossom, a brilliant little blue bird sat and twittered. I suppose it was a species of tanager. The tree I found out afterwards was the Indian laburnum. In another garden I saw a black and gold oriole something like the golden oriole of Europe.

The car sped on in the early morning sunlight through this unknown tropical world. At the Botanical Gardens I saw for the first time mangoes, camphor, clove and rubber trees; and further on towards the Maraval Reservoir we passed through cacao and coffee plantations where East Indians and negroes were at work gathering the cacao pods into heaps under the trees. The trees themselves did not interest me. They are too much like rhododendron or laurel; but the glades round the reservoir, where bamboos grow as tall as poplars along the brook side and trees of many kinds struggle one against the

other to reach the light, form a sylvan paradise fit for the dwelling of a nymph. The reservoir was actually guarded by an old negro in a black ulster and khaki helmet who gave me a rose out of his garden.

From here we rose through woods to a passage cut through the hills called "The Saddle." We passed forests of bamboo and plantations of coconuts. There were many streams, but the driver said they were low as it was the end of the dry season. On the other side of the saddle cutting we came into the sun and looked over a broad valley covered with cacao and banana trees. Woods rose to the hilltops on all sides. We dipped down by hair-pin bends, past a Roman Catholic Church set in the woods, past shady pools and streams where birds were wading, past village schools and bungalows, through more cacao plantations and on to a settlement where a white house stood in a park. In the paddock before the house were three or four enormous trees with spreading branches covered with hundreds of hart's tongue ferns. They grew like oaks, but oaks of such a size were never seen. They are called saman trees, or sometimes "South American acacias."

All too soon we were heading back towards the town and harbour where the agent's launch was waiting. The agent himself was at the Venezuelan Consul's office waiting for papers, as our next port of call was La Guaira and until the Consul chose to appear and give us a clearance we could not proceed. If there were no papers and no officials, how happy shipmasters would be.

The Consul arrived only an hour after he had promised, and as soon as we reached the ship with the papers she weighed anchor and steamed up towards the Boca de Navios. The Five Islands which we passed close to looked like the scene in the willow pattern plate.

We passed out through the Boca de Navios with tall tree-covered cliffs on either hand. Then going outside the island of Chacachacare we crossed the entrance to the Boca Grande and set a course for Punta de Penas on the Venezuelan coast. Before we passed outside, while Port of Spain was still in sight, I asked one of the officers which was north and which south, for I had completely lost my bearings. The sun was useless as a guide, for in this latitude at the end of April the sun is at the zenith at noon.

The officer confessed himself nonplussed and had to look at the binnacle before he could tell me whether Port of Spain was east, west, north or south of us.

At one o'clock Punta de Penas was abeam and all the afternoon we were running along the mountainous coast of Venezuela. The captain had determined to pass between the island of Margarita and a group of rocks off the northern shore known as Los Frayles (The Monks). By going inside these rocks he would save 20 miles, but there were no lights on them and the current was known to set strongly to the north. Only the full moon enabled us to make the passage at all, and it was necessary to take frequent observations of our position owing to the unknown strength of the current. All the officers, including the captain, were on the bridge at sundown and watched attentively for the first stars. Sirius of course shone out first ahead, then Antares to the south, Arcturus over the port quarter and Capella away to the north. By their positions we corrected our course and cautiously approached the narrow passage.

At eight bells, I found the third officer on the bridge, with the captain close at hand on the deck below. The officer declared that he saw the loom of the land on Margarita, but it was some time before I could see it, even in the light of the

moon. Margarita is a long hilly island from which the principal exports are pearls and turtles.

As we drew nearer the black blurs of the Frayles rocks showed up on the starboard bow. The captain joined us on the bridge as we entered the passage between the southernmost rock and the island. The moonlight made plain every crevice in the rocks and we could almost hear the white surf breaking at their base. The current raced across the channel and swung our stern towards the rocks so that it was impossible to keep a straight course. In a few minutes we were through the narrowest part of the channel and the captain left the bridge again. The third officer began to take a bearing on the western point of Margarita Island, to judge our distance from it. A fixed point on shore is observed when it is at an angle of 45° from the ship's keel, and again at an angle of 90° —that is when it is abeam. The time between the two observations—the speed of the ship being known—gives the distance of the ship from the point on shore.

Next morning we were running under a mountainous coast. Through a light mist great peaks loomed out towering above us, the highest, Mount Naiguata, being 9,072 feet. We closed with the land, and a little before noon entered the harbour of La Guaira and made fast to the jetty.

La Guaira has a miserable appearance from the sea, although it was one of the earliest settlements on the continent of America. We were glad to leave it the same night, after a run up to Caracas, the capital, by the wonderful motor road through the hills.

From La Guaira to Porto Colombia we sailed under a cloudy sky through a mist which obscured the coast. The air was damp and oppressive and all the other passengers were bad tempered. In the evening a small green parakeet flew on to the ship and

perched on an awning for some time. The moon was hardly visible.

Next morning the coast of Colombia was in sight. We passed the Sierra Nevada de Santa Marta, the summit of which is 16,700 feet, but it was too hazy to see the mountain. The Port of Santa Marta was the one to which the two Pizarros sailed after they had met at Gomera. They there received such a discouraging account of the dangers attendant on an expedition to Peru, that half their men were for sailing home again. However, Pizarro quickly pushed on to the Isthmus.

The route to Panama City from the Caribbean in Pizarro's day was over the mountains from Nombre de Dios. We of course went further west to Colon at the entrance to the Canal and were roused from our berths to greet the American doctor just as dawn was breaking. We watched the harbour lights blink and go out and the sun rise before the doctor's launch came alongside; but he came at last and let us land with hardly so much as a look at us.

The passage of the Canal Zone, whether by train or by water, is a rich compensation for the mists of the Caribbean or the storms of the Atlantic, for to travellers coming from the arid coasts of Venezuela and Colombia, Panama appears as a garden of Eden. Bright green trees and ferns clothe the shores of the canal and the islands on the Lake of Gatun, and the heights which close the view on every hand are all thickly wooded. In the pools and swamps are white egrets, and among the palms golden orioles flash in the sunlight.

While the ship was coaling I crossed the Isthmus by train, completing in two hours a journey which cost Balboa and the early discoverers many weary days of hardship and danger. Balboa was no doubt spurred on to his feat of crossing the mountains to the unknown ocean in the west, by the tales he had

heard of a land in the south where gold was as common as iron in Spain. On the shore of the Pacific Balboa heard more details of this El Dorado and was shown drawings of the llama, then, as now, the common beast of burden in Peru. His attempts to reach this wonderland were cut short by treachery, but he had pointed the way, and in 1519 with the founding of the city of Panama, a base was established from which expeditions could be sent out to find and claim this new empire for the throne of Castile. Five years later, in 1524, Francisco Pizarro sailed from Panama on his first expedition to Peru in a ship built by Balboa for the same purpose.

It was at the old city of Panama, burnt by the English pirate Morgan in 1671 and never rebuilt, that I first saw the Pacific, the ocean in which Sir Francis Drake swore to sail when he first viewed it from a tree top on the highest point of the Isthmus. Only the church tower and a few walls and bridge are now left of the old city. Close to the base of the tower stand two coconut palms upon the sand, and beyond them one looks over a stretch of unromantic mud, where white cranes and herons fish, to a white line of surf and the distant blue of the ocean. A ramshackle drink shop on the beach, propped upon the ruins of some nobler building, contained a picture of the Houses of Parliament at Westminster with a barge in full sail, but little else.

The modern city of Panama lying at the very entrance to the Canal is within the United States Zone, but, like Colon on the Atlantic side, remains part of Panama Republic. Balboa, the Pacific Canal port, is Zone territory and one can tell which is Panama and which Balboa by the difference in their appearance. Passing through a dirty street in Panama one suddenly comes into a clean quarter with tree-shaded footpaths and grass edges to the roads. The houses are set back and have lawns and

flower beds round them. This is Balboa where American ideas of house comfort are in force. I picked up a picture post card in a shop and asked the man where the park in the picture was to be found. He said it was not a park but a street in Balboa.

The whole Zone is laid out so as to be a delight to the eye of a passing stranger as well as a comfort to the inhabitant. Near Pedro Miguel Lock I saw a beautiful white building surrounded by palms. I thought it must be a temple to the Goddess of the Isthmus, but was told it was the waterworks. In fact a volume of water in process of being oxygenated was spraying up into the air as white as milk in the sun.

English engineers who think efficiency means ugliness should look at the central control houses at the locks. They are worthy of the landscape in which they are placed, and yet the precision with which they work is uncanny.

When our ship had been hoisted to the top of the third lock at Gatun and was steaming out into the waters of the lake, I went on to the bridge to talk to the pilot and congratulate him on the wonderful performance.

"Huh," said the pilot, "the Canal would be all right if it wasn't for the bunch of blame fools they've got trying to work it."

It appeared that the men at the signal stations had been guilty of the crime of letting a northbound ship into the Culebra Cut and ordering us to slow down till she had passed.

"That means wasting a good hour," explained the pilot.

An extra hour spent among the wooded islets of the Lake of Gatun did not appear to me a waste of time, but the pilot was anxious to catch his train at Balboa back to Colon.

The ship we were waiting for at last came out of the Cut and we entered. Above the signal station at the end of the first reach I saw through the glass two white cones against the

PLATE III.

TORRE TAGLE PALACE.

The most perfect of the old colonial palaces remaining in Lima. It was built by the first Marqués de Torre Tagle, and is now the Foreign Office.



green of the mountain side. I drew the pilot's attention to them.

"Well, if that ain't a damn dirty deal," he said explosively. "They've let another northbound ship in, and I've got to let him pass first. Those fellows think I can handle a ship in this cut as if she was an automobile with four-wheel brakes.

"Steady!" he called in a louder voice to the steersman as the ship's nose swung towards the bank.

Every steersman who takes a ship through the Canal has to understand English, and if he does not know the difference between "Steady!" and "Midships!" he soon learns.

The pilot promised to show me a large crocodile which he said usually lay on a sandbank at the side of the cut. There he was indeed as we passed, looking like a log of wood at the edge of the water. A little further on lay a great iguana, striped green and black, as long as a man, with a grey head topped with a crest. On the sandbanks many turkey buzzards were fighting over the carcasses of fish.

"You will see plenty of them in Lima," said one of the passengers who was returning there. And certainly I did, not only in Lima but throughout Peru.

It was the middle of the afternoon before we were through Pedro Miguel and Miraflores Locks and were passing Panama City towards the open sea. The pilot's negro crew who had worked the ship through the locks were taken off in a launch and at the last buoy at the entrance to the channel the pilot himself left us.

"I shan't be home before eight o'clock to-night," he said, "and we left Colon at six this morning. How is that for a day's work?"

Panama City is nobly placed at the edge of the sea, and its white houses behind the old Spanish fort are backed by green

hills, of which Ancon is the steepest. Off the shore are several islands, some connected with the mainland by causeways. These are used for the military defence of the approaches to the Canal. Further out the steep wooded islands of Tobago and Taboguilla are the resort of yachtsmen and sea birds. The trees were white as if dusted with hoarfrost, and thousands of cormorants were flying towards them from the mud flats off Panama. Frigate birds and pelicans with several species of gull flew round the ship till we had passed Taboguilla and set a course S. S. W. to clear Cape Mala. Then flocks of small petrels followed under the stern until land was lost to sight.

"What do you think of the Pacific?" asked the captain.

"It is too green," I answered, "I prefer the blue Atlantic."

This was a first impression and was, of course, a wrong one. The Pacific further out was blue enough. It is also often as grey as the North Sea when the mists hang low, and one day off the Peruvian Coast it turned red, from the number of minute animalculæ of that colour suspended in the water.

That first evening out of Panama we saw a whale—a small one, but still, a whale. Then at six o'clock the sun set in the sea, for we were now within eight degrees of the Equator and the days were short. After dark a small coffee-brown petrel with a white patch over the tail flew exhausted on to the ship and blinked with frightened black eyes at the passengers who handled it. After a little while it recovered and on being held over the rail flew off into the night.

We passed the Pearl Islands and later the light on Cape Mala flashed in the west. To the east at the opposite entrance to the Bay of Panama lies Puerto de Pinas the most southerly point known before Pizarro's first voyage. A few leagues to the south is the place named by him "Puerto de la Hambre"

from the terrible privations experienced by his company there while their ship had gone back to the Isle of Pearls for supplies.

When day broke we were south of the Punta Quemada, the most southerly point reached by Pizarro on his first voyage, and some time after noon reached the latitude of Rio San Juan, discovered by Almagro in the other ship belonging to the expedition. The day was dull and misty and we were in any case too far out to see the coast. We had by this time encountered the South wind which prevails at all seasons of the year on the West Coast and which was so baffling to the early explorers.

It was disappointing not to see the islands of Gorgona and Gallo, the scene of such sufferings on the second expedition to Peru. Gallo lies 25 leagues south of Gorgona and about two degrees north of the Equator. It is close to the shore near Cascajal Point, and a red coloured cliff at its western end with two hills over it is said to make a remarkable feature in the flat line of the coast. It was on Gallo that Pizarro drew the line upon the sand with his sword, inviting his comrades to choose between danger in Peru and ease in Panama.

A degree further south is the River of Emeralds where the third expedition landed and discovered such a quantity of precious gems.

We crossed the Line at noon next day, four hours later than we expected; but the Humboldt current from the Antarctic now had us in its grip, cooling the sea and the fresh southerly breeze. The temperature in the cabin was only 80°F.

The passengers threw buckets of water over each other to celebrate their passage of the Equator, until at three o'clock their attention was distracted by a cry of "Land ahead!" In half an hour Cape San Lorenzo on the coast of Ecuador was clearly visible, with rocks off the point and green cliffs and tree-

covered hills running north-east. We could see the church tower of Manta and Montecristo behind, with some white-sailed fishing boats off the shore.

A little later the Island of La Plata, where Drake divided the spoils of the *Cacafuego* in 1579, showed up on the starboard bow, and the navigating officer and I searched its mountainous back for a long time to find a lighthouse upon which to take a bearing. The light of the setting sun fell upon red cliffs to the south of San Lorenzo before it went behind a bank of cloud. After dark the Pole Star was no longer visible above the horizon and the Southern Cross was high over the bows.

CHAPTER III

PERU FROM THE SEA

OUR first clear view of the West Coast of South America was at sunrise on May 7, the day after we crossed the Line. We were slowly approaching Punta Salinas, the south-westerly point of Puna Island in the Gulf of Guayaquil. The hills on the island were wooded with mangrove and banana trees, and near the beach were groups of wooden houses with sailing boats lying on the sand. The tide was low and people were bathing. We cautiously approached the bar at the entrance to the river and there dropped anchor to wait for the pilot.

The wooded shore on the opposite bank of the Guayas River was now visible and made a picture fitting Prescott's description of the "beautiful Bay of Guayaquil," into which the adventurers sailed after being rescued from the Island of Gallo. Only the peaks of Chimborazo and Cotopaxi failed to complete the scene as drawn by the historian. Chimborazo is 20,000 feet high but lies over 100 miles inland from the entrance to the river; Cotopaxi, over 19,000 feet, is half as far again further towards the Colombian frontier. If Pizarro and his followers saw these dazzling summits from their ship they were lucky, for the weather must have been unusually clear.

Puna was the scene of fierce fighting on the third and last expedition. The inhabitants were a warlike race and were at enmity with the people of Tumbez with whom Pizarro had made friends.

The River Guayas—literally "Vale of Lamentations," so

called from a defeat in the early days of Spanish colonization—continues wooded as far as the city of Guayaquil, 60 miles from the bar. The town offers little inducement for a prolonged stay. Indeed a young Swiss traveller whom we took off there told us he had tried every hotel in the town, and at all of them rats—the plague carriers—ran over him as he lay in bed.

We came down the river with the tide and at daybreak were passing the island of Santa Clara, also called “Muerto” (“The Shrouded Corpse”) from its shape. On the mainland opposite lies Tumbes, the first town reached by Pizarro in what is now Peru. The coast as we drew towards it was green and covered with trees, but as we went further south bare red and brown cliffs became more prominent. After Picos Point the trees were scattered, and two hours later when Cape Blanco was abeam all sign of vegetation had vanished. We had reached the coastal desert which from here stretches down the whole coast of Peru, over a thousand miles, into northern Chile. No rain ever falls here between the Andes and the sea, for the trade winds from the Atlantic condense their moisture on the eastern slopes of the mountains and fill the waters of the Amazon; and the cool breeze from the southern Pacific is a dry wind.

This barren and desolate coast which we were now passing, although it cannot support a blade of grass, much less any animal life, has of recent years become one of the richest in Peru, for oil in great quantities has been discovered here and its production is increasing by leaps and bounds. All the afternoon as we coasted along the shore we were passing oil cylinders and pipe lines, and tall black oil towers clustered among the rocks like a scorched pine forest. Several tankers lay in Talara Bay, the centre and chief port of the oilfield.

After passing Punta Pariñas, the most westerly point in

South America, we changed course and stood across the Bay of Payta for the port of the same name on its southern shore. Here we saw for the first time the native Peruvian "balsas"—rafts made from logs of a very light wood and propelled by a long paddle. Sometimes a small sail is raised, and the sailors told me these balsas could keep the sea in fairly disturbed water. They are precisely the same kind of craft as were encountered in these seas by the earliest voyagers. But in those days the balsas often carried Indian nobles whose fine clothing and gold ornaments excited the admiration of the Spaniards. Nowadays the Indians wear neither fine clothing nor gold. They come alongside the liners as they anchor off Payta to sell fish or cheap imitations of the old Inca pottery. Some men have panama hats for sale, for this is the real home of the industry, and others eagerly offer parakeets and monkeys to the voyager.

The roadstead at Payta is well protected from the prevailing south wind, and the loading and discharge of cargo is never interrupted. The port is the terminus of a railway to Piura, and there is a project to continue the line over the Cordilleras to a navigable point on the Marañón, from which there would be water connection with Iquitos. This would greatly increase the importance of Payta, already growing with the development of the oilfields. There is at present no rail connection between the Amazon and the Pacific slope in Peru.

Pizarro was the first European to visit Payta, on his second voyage. Many years later it was sacked and burned by a British squadron. An old picture shows the sailors rolling barrels of liquor down to the shore and chasing the inhabitants into the hills. The town buildings look rather more imposing in the picture than they appear to-day from the sea.

Piura, on the river of the same name, was founded by Pizarro in 1532 with the name of "San Miguel de Piura." It

was the first colony established by him in Peru and was intended to serve as a base for his future operations.

Sailing from Payta we passed Seal Island and Seal Point and steamed south across the Bay of Sechura. Behind a range of low hills near the shore the great desert of Sechura stretches eastward for a hundred miles to the foothills of the Western Cordilleras, and extends south as far as the River Lambayeque.

A great scheme of irrigation is now being brought to fruition in the Lambayeque valley by which it is intended to fertilise an area of 225,000 hectares. To do this 2,000 miles of road must be laid, over 1,000 miles of canals dug and a tunnel ten miles long bored through the Andes to divert the waters of the Huanacabamba River from the Amazon to the Pacific. Twenty cubic metres of water per second will be brought through the mountains and the fall will provide a force of 120,000 horse power available for industrial development of the irrigated regions. Sugar and cotton are expected to be the chief crops, as they already are along the river valleys. By such means the Peruvian Government hope in time to turn the arid Pacific coast into a rich agricultural country.

After passing Punta de Aguja our course was south-east. We passed in the night the islands of Lobos de Tierra and Lobos de Afuera, the haunt of sea lions and guano birds, and at noon next day entered the roadstead of Salaverry. Although we could see the western spurs of the Andes we were still without a sight of the real summits which Prescott declares served as a landmark to the early navigators. The "mighty ranges rolling onwards, peak after peak, with their stupendous surges of ice" were hidden from our eyes by banks of cloud.

Pizarro passed Salaverry on his second voyage and later founded here the town of Trujillo, named in honour of his own birthplace in Estremadura. Trujillo lies a few miles north of

the port in the fertile valley of the Chimu. The rivers of the Pacific slope contain plenty of water, and wherever irrigation canals are led off from them the desert blossoms with the rose and with crops of more commercial value. Under the Incas the irrigation system was extensive and elaborate, but it was allowed to fall into decay by the Spaniards. However the prosperity of Trujillo appears to be a monument to Spanish constructive effort, and the voyager down the barren West Coast is delighted by the broad stretches of green sugar fields which surround the town. On a hill near the sea further to the north stands a church with two towers, one of the earliest built by the Spaniards in Peru.

A railway connects Salaverry, an open roadstead, with the Vale of Chimu at Trujillo, and continues north into the equally fertile valley of Chicama.

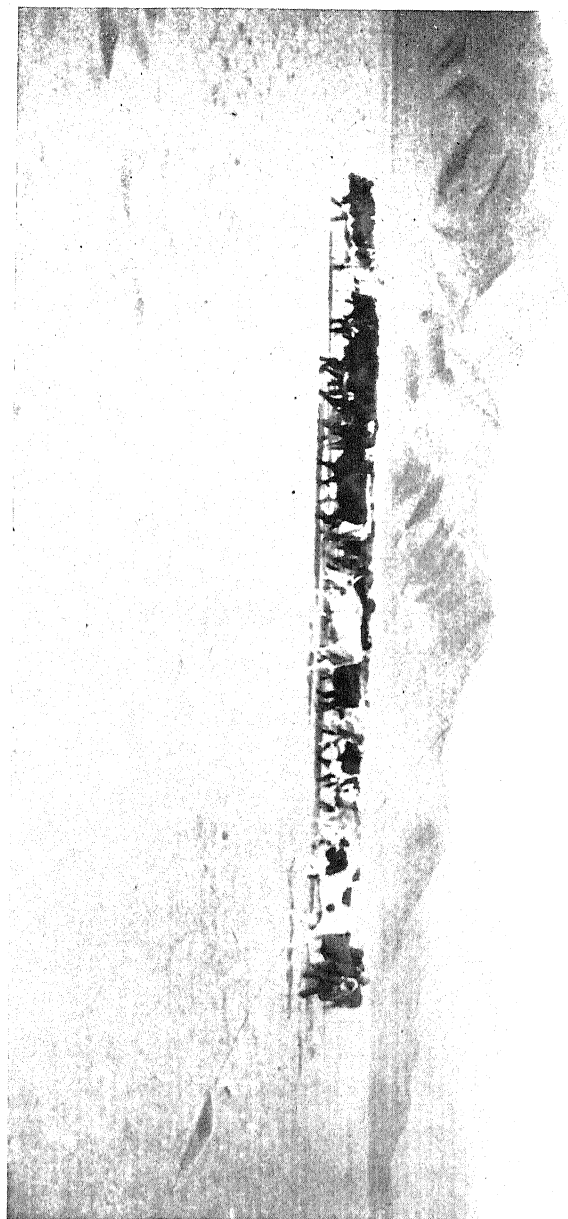
I should have liked to have landed here and gone inland as far as Cajamarca in the heart of the Andes. This is the place where the future of South America was decided in half an hour as the sun was setting on the 16th of November, 1532. Pizarro and his little force of under 200 men had marched from Piura through the valleys at the foot of the Andes and had crossed in mail, with their horses, the western Cordilleras along precipitous tracks only meant for lightly clad men and llamas. When they reached Cajamarca they found there the Inca Atahualpa encamped with an army of 50,000 men outside the town. The Spaniards were invited to take up their quarters within the walls, and when the Inca visited them there the next day with some thousands of unarmed followers Pizarro's force fell upon them at a concerted signal and butchered them, saving only the Inca for a worse fate.

From Salaverry we ran south a further 250 miles to Callao, the port of Lima. The temperature was dropping rapidly, and

PLATE IV.

THE COASTAL DESERT.

The white objects dotting the sand in the foreground are bones of animals which have died on the march.



when we reached Callao Bay the thermometer stood at only 71°F. We were too far out to see much of the coast, but not too far for the thousands of sea birds who now began to play round the ship. Among these were black-backed gulls, two or three kinds of greyish gulls and a much larger gull-like bird with black wings and white head and body, which was, I believe, a yellow-nosed albatross (*Diomedea exulans*). In the evening I saw a firefly on deck. There was a good deal of swell, and some passengers who had been wrestling with trunks in stuffy cabins found a difficulty in relishing the farewell champagne banquet to which we were summoned at six bells.

We entered Callao Bay soon after daybreak. The hills surrounding it and the islands off shore were shrouded in a pearly mist which half revealed and half hid their gaunt slopes. As we steamed slowly towards our anchorage the masts and spars of sailing ships at anchor loomed out of the mist, and thousands of gulls saluted us with raucous cries. Sea lions popped their heads out of the still water and gazed at us or swam lazily alongside; and scores of great jelly-fish, striped yellow and white, floated by, looking like small mermen carrying Japanese parasols.

The early sun lit the water but could not pierce the mist. We could see the dim outlines of other steamers near us and buoys with pelicans and gannets on them, but the houses and wharves of Callao were veiled from sight. The cliffs on the island of San Lorenzo gleamed faintly through the mist with a suggestion of mystery, and one wondered what scene would be disclosed when the rising sun cleared the air.

The name "Callao" conjures up to the mind a vision of deep-sea sailing ships, and one almost expected that when the mist rose it would show long lines of anchored windjammers such as filled this famous port before the days of steam. But

the "gipsies of the Horn" are here no longer, except two or three old hulks now fulfilling inglorious tasks. Callao is no more the far away goal of the sailor battling through the icy fifties, but a prosaic port of call where the West Coast steamers touch and go in a few hours.

Long before the doctor had passed us and we had received our "pratica" the mystery had vanished from the port of Callao. We could see the Custom House, the small docks and the business quarter behind, and to the right the white villas of La Punta where some of the aristocracy of Lima live, and where the Peruvian Naval School is stationed under the direction of an American admiral. Off the shore lay trim grey gunboats flying the red and white flag of Peru, and naval launches were passing between them and the shore.

Beyond La Punta the craggy island of Fronton was now clear in the south-west. This island and that of San Lorenzo to the north form with La Punta a natural breakwater which makes Callao one of the best harbours on the West Coast. On the north of the Bay are more hills, and behind the plain of Rimac, gently rising from Callao to Lima, are the foothills of the Andes rising one behind another into the clouds.

On the plain at a height of 500 feet above the sea stands Lima, the capital, seven miles from its port.

As soon as the ship's papers are passed by the port authorities she blows her syren and the crowd of motor launches which have been hovering near her dash at full speed for her ladder. Men of all colours leap from their bows as they near the steps and jostle one another up the ladder in a struggle to be first on board. There are the "fleteros," the porters or baggage carriers who take passengers' luggage from the ship and deliver it at the hotel, conveying the passenger also as far as the Custom House.

A stranger may be at first reluctant to trust all his worldly goods to a man he has never seen before, particularly as the man seems so anxious to seize them. But the fleteros are numbered and licensed, and I believe are generally to be relied upon—both to deliver the luggage and to charge double the tariff if possible. The moment of danger is when, having made his contract with you, the fletero lassos your trunk and lowers it over the side to his waiting launch.

“Mine fell into the river at Guayaquil,” said the young Swiss gloomily as he watched his brass-bound box dangling in mid-air. “It contains samples of colour prints. If they are wetted again they will be no more use except to give away to Customs officials.”

Passengers are landed at the steps of the Custom House wharf, called the “Muelle de fleteros,” and after clearing their luggage leave it with the fletero and take a motor car or bus to Lima.

The town of Callao offers nothing to the visitor except the old fort, built to keep off the English and French pirates and now restored and used as the headquarters of the Customs. The road between the town and Lima has been newly relaid in concrete and has an excellent surface, over which traffic tends to increase both in quantity and speed. A stone pedestal at the roadside with a crumpled car on the top of it has been erected by the local Rotary Club with the warning, “*Despacio se va lejos.*” (“Go slowly and go far!”)

On each side of the road are the fields which cover the plain of the Rimac, for irrigation is carried on here and the soil yields good crops of cotton, maize and bananas. It was the time of cotton harvest when we landed and the white balls were bursting on the trees. Over the fields scores of *gallinas* were fly-

ing. These are all called "turkey buzzards" by North Americans and the only difference is that the turkey buzzard has a red head and the *gallinazo* a black one.

The walls between the fields are built of large blocks of sun-dried mud called "adobone." This is the traditional building material of the Pacific coast in Peru, smaller mud bricks called "adobe" being used for houses. As no rain falls the mud remains hard, and even the fine new villas are built of it with a covering of lime and roughcast. Some years ago, I was told, there was a local shower and several houses crumbled; but in this topsy-turvy country rain is a phenomenon and earthquake a rule.

At the end of the smooth, wide avenida the roofs and spires of Lima quickly rise, and soon the car turns into a narrow street and issues on to the Plaza San Martin, where a big new hotel has been built to rival, it is said, any in South America for both comfort and charges.

From the Plaza San Martin the principal street of the city leads to the south-west corner of the Plaza de Armas, the focal point, round which stand the Cathedral, the Government Palace, the Municipal Buildings, the Archbishop's Palace and also the English Club.

Here we are at the centre of the second oldest city founded by Europeans in America. Cartagena was founded two years earlier in 1533, but old Panama is now nothing but a ruin, and when Lima was founded by Pizarro at the Feast of Epiphany, 1535, Henry VIII was still upon the Throne of England and the Pilgrim Fathers were not born. The original name of the capital was "*Ciudad de los Reyes*" ("City of the Kings"), in honour of the day on which it was founded; but this was too long even for a sixteenth century Spaniard and the city became known as "Rimac," later corrupted into "Lima."

The choice of this site for the capital of the new colony was determined by its central position on the fertile bank of the Rimac and but a short distance from a secure haven. At Lima the Governor was about equally distant from Cuzco in the south and Piura in the north, and could transport his forces either by sea or land in either direction. Moreover, on the plain of Rimac the city had room to grow—a fact for which the successors of Pizarro are to-day grateful.

The student of the ironies of history is amused at the discovery that this town—planned by a Spaniard when Indian wigwams were the only dwellings on Manhattan—was laid out on the rectangular principle in regular blocks. If Pizarro had only numbered his streets, instead of leaving them with a confusion of names, he might be claimed as the real town-planner of New York, for a city where the streets run at right angles and cross at regular intervals is something entirely foreign to the European idea, and Pizarro must be given credit for thinking of it and deciding that his new capital should be of logical creation and not of haphazard growth.

In carrying out his idea the Conqueror of Peru paid more attention to open spaces and gardens than modern builders are apt to do, at any rate in Europe; his streets were wider than those of a Spanish city and were ample for the traffic of that time, though not for the needs of to-day. The Plaza de Armas near the bank of the Rimac (which he made the base for a triangular-shaped town) remains one of the largest and most beautiful public squares in South America.

CHAPTER IV

THE CITY OF THE KINGS

STANDING in the Plaza de Armas at Lima and looking north, the visitor has facing him the Palacio de Gobierno, a long grey building running the entire length of the square on that side. It stands on the site chosen by Pizarro for the Governor's residence, but nothing of the original building is now left. The only remaining connection with the first Governor is a fig tree which he planted. It stands in the garden outside the window of the President's antechamber and consists now of a gnarled old trunk and one small branch. Until a few years ago the tree had two branches, but a soldier of the Guard climbed one of them to pick some figs and brought it down.

For close on 400 years Governors, Viceroyes and Presidents have lived and worked beneath the shadow of Pizarro's fig tree. Not only was Peru governed from here but all Spanish South America, including the Argentine, until a Viceroyalty was set up at Buenos Aires in 1776.

It is not surprising that the present occupier of the Palace, President Leguia, should have a strong sense of its history.

"On this spot," he will tell his visitor, "Pizarro had his house, and beneath this very room in which we are sitting he was murdered."

Perhaps the President recalls occasions on which history has nearly repeated itself, for the successors of Pizarro have not always found a bed of roses within the Palace.

The murder of the first Governor took place on Sunday the 6th of June, 1541, after high mass at the Cathedral. The

“men of Chile,” with the young son of the executed Almagro at their head, had determined to kill the Governor as he issued from the church, but he was warned and stayed within doors. The conspirators, when they learned this, came out of Almagro’s house and crossing the Plaza entered the courtyard of the Palace shouting “Death to the tyrant.”

Some friends who were dining with Pizarro, learning the cause of the uproar, made off by a back exit, leaving him to his fate. His guard made no attempt to stop the assassins at the gate, and even his aide failed to secure the door of the antechamber as he was ordered. The Governor had to face his murderers without his cuirass and with only two young pages at his side. These were both killed, and in spite of the great strength and good swordsmanship of their master he too was borne down by the number of his enemies. According to tradition he made a cross on the floor with his own blood and kissed it as he lay dying.

Pizarro’s bones now rest in a glass coffin in a side chapel of the Cathedral. The skeleton is that of a tall man somewhat passed the prime of life. The guide will point out to the visitor the marks on the bones which record where the fatal blows were struck. A new sepulchre is now being erected in a more prominent position on the right of the main doors, and there Pizarro is at last to find a resting place worthy of his renown.

The Cathedral of St. John the Evangelist in Lima was the first building to be begun in the new city, and it is said Pizarro worked on it with his own hands. The first small church was succeeded by a second on a magnificent scale, filled with treasures which included an image of the Virgin presented by Charles V. This was destroyed in the earthquake of 1746, and the present building is the third on the site. The towers and other parts of the structure have been several times restored,

but it has preserved in general the colonial Spanish style. The interior is vast and stately and forms a fit setting for the pageantry of the great Church festivals. The Cathedral was raised by Pope Benedict XV to the rank of a Basilica at the Centenary of Peruvian independence in 1924.

Adjoining the Cathedral on the northern side is the new Palace of the Archbishop, built as a perfect specimen of Spanish colonial architecture at its most ornate period. The grilles of the wooden balconies on either side of the door are finely carved, and over the main door itself are reproduced the principal motives of colonial sculpture.

The other buildings round the Plaza show the adaptation of the old style to modern taste. The upper story has a balcony running along its entire front, enclosed as a rule by glass. The balcony stands on porticoes (called "portales") which cover the footpath as in Southern Europe.

Behind the Palacio de Gobierno is the River Rimac, now robbed of much of its water for power works, and a place of resort for turkey buzzards and other carrion hunters. It is crossed by an 18th century bridge, where, while leaning over the parapet, I was one day cheered by the unexpected sight of the sea in the west.

On the opposite side of the Plaza de Armas, going south towards the Plaza San Martin, is the principal shopping street. Here the visitor with heavily lined pockets will be able to lighten them, for Peru is a country of antiques, and in the curio shops are to be found Inca and pre-Inca pottery, stone and copper work, Spanish colonial silver and furniture, hangings, tapestries, silks and lace, and other toys and trinkets to fill a ship and break a bank balance. There are, however, restrictions on the export of antique works of art.

As one goes through the town one sees everywhere the over-

hanging wooden balconies and low buildings which happily still predominate over the great new houses of the shipping and business firms. These balconies, some open and some glazed, give Lima a character of its own and stamp it as the nucleus from which Spanish South America has grown. Other capitals to east and west of the Andes have now become richer and greater but none bear the traces of so proud a past as Lima.

The most perfect colonial house in the city is the Torre Tagle Palace, now the Foreign Office. This was built by the first Marques de Torre Tagle in the first half of the 18th century, and is in traditional Spanish style, with a tiled patio open to the sky and a carved wooden gallery on the upper floor from which the principal rooms lead. In these salons the high society of vice-regal days met, and portraits of the Torre Tagle family still line the walls. Since the Government bought the building they have furnished it with antique pieces of the colonial period, so that the house now serves as a museum of national art as well as the gathering place of diplomatists. The stone used in the building came from Panama, the various rich woods from Central America and the tiles from Seville. The wooden balconies overlooking the street above the main entrance are masterpieces of delicate carving.

Another fine example of early timberwork is to be seen at the Hall of the Inquisition, now converted into the Chamber of the Senate. The carved ceiling is in the best colonial manner. The Inquisition functioned here from 1569 till 1813, and during its reign no one, not even the Governor or Viceroy, was immune from its operations. It is said that one Viceroy was summoned to appear before the Inquisition. He did so, but was not long detained when he told the Court that the building was surrounded by his artillery.

Naturally in this centre of Spanish Catholicism there are

many churches and convents, some of them splendid examples of the ornate colonial style of church architecture. The Franciscan convent has a lovely cloister adorned with 16th century tiles, the gift of a lady from Seville. While wandering round this place and wishing some rain would wash the dust from the trees in the garden, I was surprised to see through a carved wooden grille a printer's case room and press. I was told that one of the brothers had a fondness for printing and that all announcements connected with the Monastery were set up by him and printed on his press.

Printer's ink seems strangely out of place in this home of seclusion and mystery. During the four centuries of Catholicism in Peru, more strange things have happened behind cloister walls than were ever recorded on printed page. The whole city, I have been told, is undermined with tunnels and secret passages, and recently workmen while digging the foundations for a new bank, opened an underground passage which led in one direction to a nunnery and in the other to the Palacio de Gobierno. It is fascinating to speculate on the kind of commerce which passed between one end of the passage and the other in the days when it was used; but its secrets have been well kept and it will never have any more to tell, for the bank at once bricked it up, holding that they could not permit strollers underneath their strong rooms.

While still on the track of something old—before he is dragged off to a cinema tea, or a bathing beach—the visitor should call at the University, now housed in the old Jesuit College. The Universidad Mayor de San Marcos was founded by decree of Charles V in 1551 “with the same rights and privileges as the University of Salamanca.” It is therefore the senior university of America, although unfortunately not the best endowed. The quiet cloisters with their palms and foun-

tains seem a fitting place for study, but the students talk of the need to move into larger quarters where there would be more space for games. A hard road leads to scholarship in Peru, for the principal scientific text books are in English, French or German, and both the imported originals and the translations are very dear. A European visitor will be struck by the fact that the classics find no place in any of the six faculties.

Beyond the University one soon reaches the edge of Pizarro's Lima and enters the new and greater city which is springing up beyond towards the south. This is being laid out on lines so spacious that the visitor from overcrowded Europe can only wonder and admire. The Paseo Colon is a broad double avenue with gardens and footpaths running down the centre, and leads from the gardens and palaces of the Exposition at one end to the Plaza Bolognesi at the other. A short distance from the eastern end of the Paseo Colon is the new Avenida Leguia, which leads down the side of the Zoological Gardens southwards to Miraflores.

Along this smooth, flower-bordered highway, the cars speed swiftly to Lima's most favoured suburb. On either hand fine houses are rapidly rising along the Avenida, and to right and left one has glimpses of other avenues and tree-planted squares with statues already placed in them, but fewer houses as yet. The houses are creeping over the cotton fields however, even far back from the Avenida Leguia, and men who bought land here a few years ago, are now exulting over their own foresight.

Miraflores is the home of nearly all the English and Americans in Lima, and as one approaches it, tennis courts and red-tiled Tudor roofs catch the eye. Many of the exiles tell you they prefer life here to life at home, and perhaps some of them do. Happiness is made or marred by one's friends, and at Miraflores one can choose a friend from any part of the world.

PLATE V.

VALLEY OF THE RIMAC.

Pack llamas and Indians leaving Matucana.



Even the people who stick rigidly to their own countrymen find in the Spanish type of society surrounding them, an interest which they would lack at home.

The houses at Miraflores stand in their own gardens, and the streams running down the sides of the streets provide abundant water for the flowers and shrubs. Plants grow fast in this climate wherever there is water, and Miraflores is a verdant spot. The English houses have of course a lawn in front of them, and all are overgrown with flowering creepers. One pretty pink kind, called "Bellissima," has small feathery blossoms, and another has a purple flower like a gloxinia; morning-glory climbs everywhere. Among the flowering shrubs are white datura, scarlet hibiscus, dahlias and roses. Masses of bougainvillea in various shades hang over the walls and railings. Most of the trees are palms, but there are some pines, olives and eucalyptus.

These fine houses and gardens cover a surprising extent of ground, and more are always being built. Beyond Miraflores there is no concrete motor road, yet at Barranco further along the coast, are many more large villas near the cliff edge, and still further at Chorillos this one-time seaside resort of the Lima aristocracy, seems likely to develop as an outlying suburb. New villas are springing up near the older chalets where the family sit on verandahs behind the bars of an iron grille. There is also a short sea front on the cliff and a cable trolley to carry one down to the bathing station on the beach.

A walk has been cut along the cliff from Chorillos round a headland to the south and down towards a sandy bay, where there is another bathing station. From this path one can look back toward the red cliffs at Barranco and Miraflores, capped by white villas and dark pine groves; and at night when the moon is full it is pleasant to run out here from the city and

look down at the shining water and the fishing and pleasure boats rocking on it to the swell which never ceases even on the calmest days. The short sea fronts of Chorillos and Barranco are spots of brilliant light, and farther to the north, the glare of Lima reddens the sky. The old-fashioned, flower-covered houses of Chorillos appear most enticing on a sultry summer night, and the Limeño who comes out for half an hour invariably declares he will settle there for good.

From the cliff path beyond Chorillos one has a good idea of the arid shore, partly sand and partly hard rock, which forms the entire coast of Peru. The softer parts have been washed into bays and the harder rocks remain as headlands or islands. The smaller of these islands, of which there are a great many off the coast, are the home of myriads of sea birds, and from some of them Peru formerly derived a large revenue from the deposits of guano. The most valuable were lost in the war with Chile in 1880, but several still remain. Some of the islands are known to sailors as being white by day and black by night, the blackness being due to roosting birds. When flocks of these birds fly over the sea they look in the distance like the smoke of a steamer, and I have sat on the beach at La Punta for over an hour while a stream of cormorants continued to fly between San Lorenzo and the mainland. When I left the stream was still unbroken.

I saw at least three kinds of cormorants, one the common black species, another black with a white breast, and the third grey with red legs and a slender neck with white on it.

The bird commonly known as the guano bird is the *Sterna inca*, a handsome tern about ten inches long, sooty grey in colour, with red legs and black on the top of the head, wing tips and tail. The bird can easily be identified by a thin white whisker-like feather which curls outwards from each ear. These

terns are often to be seen along the shore at Chorillos, but a grey gull of heavier build, but something like the tern, is more common. The chief gull of the guano islands is *Larus modestus*, a black-backed species; and other inhabitants are a small penguin, Garnot's petrel and *Pelicanus thajus*, the great clumsy brown and white pelican which flies in single files round the ships in all the ports on this coast and rides on the water like a small boat at anchor. The long beaks of these birds when tucked down upon their chests look something like goatee beards and have earned for the solemn old pelican the name of "grandpa."

The rocks at Chorillos are formed in some places of almost rectangular blocks of stone running out to sea, and separated by small chasms in which the white foam boils as the great rollers break. Between the waves, Indian fishermen jump down and cut off shell fish from the rocks with a chisel, or hunt for octopuses with a bamboo with a hook at the end of it. In the sandy bays other Indians push the nets in the shallow water, and bring ashore baskets full of curious shrimps, shaped like beetles.

One day I visited the island of Fronton in company with some University professors and a specialist in mental pathology, for Fronton is the penal settlement of Lima. The prison governor came off with us from Callao in a motor launch, which shot past La Punta and over the rising waves towards the Island. It was calm enough at the pier to land easily, and at its head we were welcomed by the resident superintendent. The prisoners were filing up to receive their mid-day ration, which, according to what we were told was a very ample one.

I tried to explore the island on the northern side where a rock-strewn strait separates it from the sister isle of San Lorenzo. The day was bright and the seas breaking on the

rocks sparkled in the sunshine. Beyond the strait I could see through the glass the black forms of sea lions on the rock ledges of San Lorenzo and clouds of sea birds flying over them; but before I had gone far a young prisoner came up and begged me to intercede for him with the governor so as to obtain his release. He was perfectly innocent of any crime, he told me, though convicted for vagrancy, and he was the only son of his mother who was ill. Before he could finish his story another man came up to tell me his, which proved to be a variant of the first; and then a third and a fourth joined us, and I found the island of Fronton was inhabited by the most blameless set of men in Peru. In fact I began to wonder whether I and the professors and the specialist in mental pathology were not more worthy to be kept there and the felons released.

The governor, however, had no doubts on the question when I made my escape back to his quarters.

"No one would be here who wasn't a hard case," he said. "Each is a little worse than the other—that is all. When you go back in the launch this evening you will carry over a man, a Brazilian, who has to-day finished a sentence of eight years for homicide. The others are here for equally good reasons."

After a series of cocktails I was invited to my first Peruvian banquet. It was served on an open verandah overlooking the quarries at which the prisoners were working, the pier and the Bay, with the white houses of La Punta and Callao beyond. Higher upon the plain of Rimac could be seen the spires and towers of Lima, and towering over them the blue-brown masses of the Andes. The dinner to which I was bidden turn my attention, consisted of minced fish mixed with red-hot chilis, mussel soup, roast duck and rice (the famous "*Arroz con patos*"), Spanish omelette, beefsteak, fresh oranges and stewed fruit.

Barbaresco and Capri appeared from some inexhaustible source, and it was four o'clock before the meal was over.

The talk was lively, for we had at the table the prison governor, an editor, a psychologist, and several professors and school-teachers—all men accustomed to express their views *ex-cathedra*. Sometimes they appealed to me for an English and unbiassed opinion and rescued me from my floundering in the Castilian idiom with much better mastery of my own.

After luncheon the launch was ordered and we set off in it to obtain a nearer view of the sea lions on San Lorenzo. As we entered the strait between the islands, we met the swell from the ocean and the little launch tossed about like a cork. On several of the rocks companies of sea lions were lying. Some I should have called seals, and one monster with a prominent nose was large enough for a sea elephant. They raised their heads and bellowed as the launch passed, and some slipped off the rocks into the water.

The cliffs on San Lorenzo are higher than on Fronton and are black and beetling. We drew under them as close as we dared and looked up to where the sea birds crowded on the tops. Among them were grey and black and white cormorants and a gannet (*Sula variegata*) which has brown, speckled wings with a white neck and black bill.

On our return we picked up the Brazilian homicide at the pier and then headed for Callao. The ex-prisoner seemed to be not quite certain what was happening to him, but grinned and waved his hand to the comrades he was leaving.

As we raced shorewards the evening light was shining full on Lima and the hills behind, making a wonderful panorama of white walls against red, brown and violet mountain-side. So, seen, across the water, with the white sails of fishing boats in

the foreground, Lima justifies Prescott's description of "the fairest gem on the shores of the Pacific."

When we landed at the steps in the square at Callao our prisoner climbed them with us and continued to follow behind the governor as if unable to strike out any course for himself. Probably he was simply afraid to be left alone. At last when the party broke up one of them took the homicide by the arm and led him into the town to find liberty and perhaps happiness.

The Plaza de Armas fills up in the evening, and under the portales young and old Limeños saunter. Here no longer can one see the "tapadas," the veiled women who during colonial days caused so much trouble to Bishops and Viceroys. How the women of Lima came to adopt this Mahometan custom I do not know, but excess of modesty was certainly not the motive.

A long shawl, called a "manto," covered the head and shoulders and was drawn across the face so as to leave only the right eye visible. So disguised the Limeñas of every class would take the air, one looking exactly like another; and it seems that under every manto lurked a devil of mischief. The tapadas appeared everywhere, at mass, at public feasts and in the ballroom of the Palace, and their pranks were so outrageous that successive Viceroys tried to ban the costume. It will surprise no one to hear that they failed.

When the Viceroy, the Marques de Guadalcazar, promulgated a decree in 1624 imposing heavy penalties on tapadas and any man who spoke to them, the aristocracy of Lima drew the shutters of their houses and warned the Viceroy that on the feast of Corpus the women would appear in mourning, wearing the manto in spite of the decree. They were as good as their word, and by noon over ten thousand were under arrest, including the Viceroy's own wife and daughters. That poor man re-

tired to his country seat amid the tolling of the city bells, and next day the tapadas reigned as usual in the streets.

Time and fashion have proved stronger than the Viceroys, and with the Republic the custom gradually died out. First two eyes and then the whole face appeared—and why should it not, for it has usually no reason to hide. From the enveloping manto has stepped a dainty figure in the latest Paris fashion, as much the queen of the portales to-day as was, three hundred years ago, her ancestor, the tapada.

CHAPTER V

DESERT AND SOWN

I WAS invited to visit the Government irrigation works at Cañete where a large area of sterile pampa has been turned into fertile cotton fields, and accordingly left Lima before sunrise one morning along the Avenida Leguia. A rough road has been laid across the desert, and there is even a motor-bus service as far as Pisco, but it is not to be recommended to the gentle tourist. Even the most softly padded motor car makes heavy going over parts of the road beyond Chorillos where a lane leads between cotton fields and swamps down to the edge of cultivation.

As soon as the watered valley is left behind and the road begins to cross a level tract between the wall of hills and the sea, vegetation dwindles to a short grass (called "salt grass"). This too stops after a mile or so and there is nothing left but sand, over which the car flies mile after mile, with the bare hill-side on the left and a wall of leaping foam on the shore to the right. No matter how calm the sea appears to be the rollers always crash on the beach and send up this column of spray. The day we crossed was misty, and the straight road vanishing ahead with the surf booming on one side and the naked hills shutting us in on the other made a scene of desolation very impressive to one leaving civilisation behind and ignorant of what lay ahead.

At intervals along the narrow road are wider passing places, and the stones which mark these are the only breaks in its straight sides. The bones of animals which have fallen ex-

hausted on the march whiten the sand. They have long ago been picked clean by the vultures and will be exposed until they crumble to dust, for there are no creeping plants nor moss to cover them, nor any earthworms to build up soil around.

An even more ominous sight to my mind was a broken-down car. The men did not ask for assistance, but the Peruvian desert is like a quicksand, a place to be passed over as rapidly as possible. The stranded car and the men tinkering at it seemed the centre of desolation, wrapped round as they were by mist and sand.

We sped on, and in a few miles more saw ahead the ruins of the famous temple of Pachacamac on rising ground running out to sea cliffs, with the Island of Pachacamac off-shore.

Pachacamac was worshipped as the Creator of the World by the tribes who lived here before the Incas established their dominion on this part of the coast. Following their usual policy the Incas adopted the god of the conquered race and worshipped Pachacamac side by side with their own Sun God. At the time of the Spanish Conquest Pachacamac was one of the greatest centres of pilgrimage in Peru. People came from all over the "Four Quarters of the World," as the empire was called in the Indian tongue, to listen to the oracles of the god, and the temple contained a huge store of gold and silver treasures. It was destroyed by Hernando Pizarro who had come to seize the treasure for the ransom of Atahualpa.

Most of the gold had already been carried off by the priests, but Pizarro found enough silver to shoe all his horses with it for the return journey to Cajamarca. With zeal for the true faith he tore the idol from its shrine and broke it in pieces. The worship of Pachacamac ceased from that day and in a few years the temple walls had been half pulled down for building material.

The temple stood on the crown of the hill overlooking the sea and was solidly built of stone with a surrounding wall. The walls contained the recesses or niches common to all the Inca buildings, and the doorways, of which some still stand, were built with sides sloping inwards towards the lintel, so that the door is wider at the bottom than at the top, in the usual manner of stone buildings before the invention of the arch. The ruins surrounding the old temples at Pachacamac cover a large area of ground and are mostly built of mud bricks. They are too far perished to have much interest except for the antiquary, and the new motor road cuts ruthlessly through them. The makers of cars even paint advertisements of them on the ancient walls.

Pachacamac has been a rich mine for the archæologist, for it was along the coast that the working of pottery reached its highest development. At several other places between Lima and Cañete and also further south, excavations have been carried on in recent years at the huacas, or burial places, and a great store of pottery has been unearthed.

Some remarkable specimens of this early work are shown in the archæological and university museums at Lima. Each district had its own peculiar style, but there were two main schools, one pictorial with designs in various colours on smooth surfaces, and the other sculptural. The pictorial art developed to such a height that in it is shown almost every activity of human and animal life. Among the scenes represented are deer-hunting, dancing, mussel gathering, birds brooding their young, llamas and other animals in various attitudes, men chewing coca, and mothers nursing their infants.

The sculptural work includes fruit of all kinds known to the early Peruvians, done with marvellous realism. Here are chirimoyas, yuccas, pacays, lukumas, potatoes, pineapples—all

modelled with a certainty of touch and perfection of finish which it would be impossible to surpass. Small animals such as frogs, shellfish and humming birds are done with the greatest fidelity, and the human face is successfully treated.

Some of these faces show some character study. One in the university which shows an old Indian with teeth bared in a grin always reminds me of a well-known bust of Voltaire. Sometimes a dramatic scene is represented by means of several small figures. Invention and fantasy were strong traits among these early artists and much of their work is bizarre in the extreme.

The textile workers had reached an equally high plane long before the Conquest and many of the wrappings round the mummies show decorative weaving in silk, wool and cotton of extraordinary beauty. The colours have remained bright to the present time. The Spanish conquerors were enchanted with the woven fabrics they saw and took specimens back to Spain, where they were considered fine enough to be worn by the sovereign.

Leaving Pachacamac behind, we reached Lurin, a small town or large village watered by a river and the present terminus of a railway from Lima. The train journey takes so long however that people use the road whenever possible. This line was built with the idea of continuing it to the shore where are two bays well sheltered by headlands. It was proposed to make a naval base here, but the plan never proceeded further than the railway to Lurin. The bays remain deserted, the haunt of seabirds and motor campers from Lima.

A little beyond Lurin the road reaches the cliff edge and runs along it over the sea with waves breaking below. Then it slopes down on to a level sweep of sand which stretches as far as the eye can see. Here the driver leaves the track and makes a new one for himself over the bare sand. This is firm and

crisp and the car shoots across, sometimes switchbacking over hummocks or dipping into hollows, but never slackening its breakneck speed. Every time a driver travels between Lima and Cañete he tries to break his own record—and apparently usually does so.

At Chilca is another river and another green oasis in the desert, where sugar, cotton and bananas are grown. The houses are primitive, especially the roofs, which often appear to be a few pieces of bamboo and nothing more. The reason is, of course, that there is never any rain or frost; the only purpose of a roof is to give shade from the sun. We stopped here at one of these mud dwellings and had coffee and fresh white rolls. The place was surprisingly clean, and the crockery bore the design of roses and forget-me-nots so dear to the English manufacturer, and apparently also to his South American customers.

The valley of Chilca was selected by Almagro as the site of his future capital during his feud with Pizarro. Had he proved the victor Chilca and not Lima might still be the capital of Peru. Almagro was encamped with his army at Chilca when he met Pizarro for a last attempt at reconciliation at Mala.

Just beyond Chilca where the desert began again I noticed curious pits dug in the sand, with fig trees, cotton and bananas growing in the bottom of them. My guide explained to me that in these parts men dig down to the bottom of the sand to reach the moist earth beneath. In the pits so formed excellent crops, especially fruit, are produced. This is exactly the method followed by the Incas in these desert regions before the Conquest.

After crossing another wide expanse of desert on the wings of the wind we entered more hilly country and for a couple of hours wound in and out of ravines, passing up gorges where the road had been cut with difficulty along the sides of the hills and

flying down the long sandy slopes on to barren plains beyond. No sign of vegetation of any kind was to be seen except a small aloe-like plant called "cardo" with grey, spiked leaves; this grows on the bare sand without roots. It can be picked up between the thumb and finger, having no hold upon the ground.

I was told that rain falls in winter in some of the hills and that they then sprout with grass and provide pasturage for cattle.

In the valley of Mala is a broad irrigated stretch of land noted for its banana fields. We passed through miles of them along a very bad road, and then crossed a suspension bridge over the river, where we saw traces of the severe floods of the previous year when much damage was done and many bridges washed away.

Then more desert, and more barren ravines. As we wound through them my guide told me they were formerly a great haunt of highwaymen and bandits. Coming down a long sandy slope on the other side towards the sea we saw an island lying off the shore, the top of which was partly black and partly white. This was Asia Island, and the black parts were the flocks of birds standing on it.

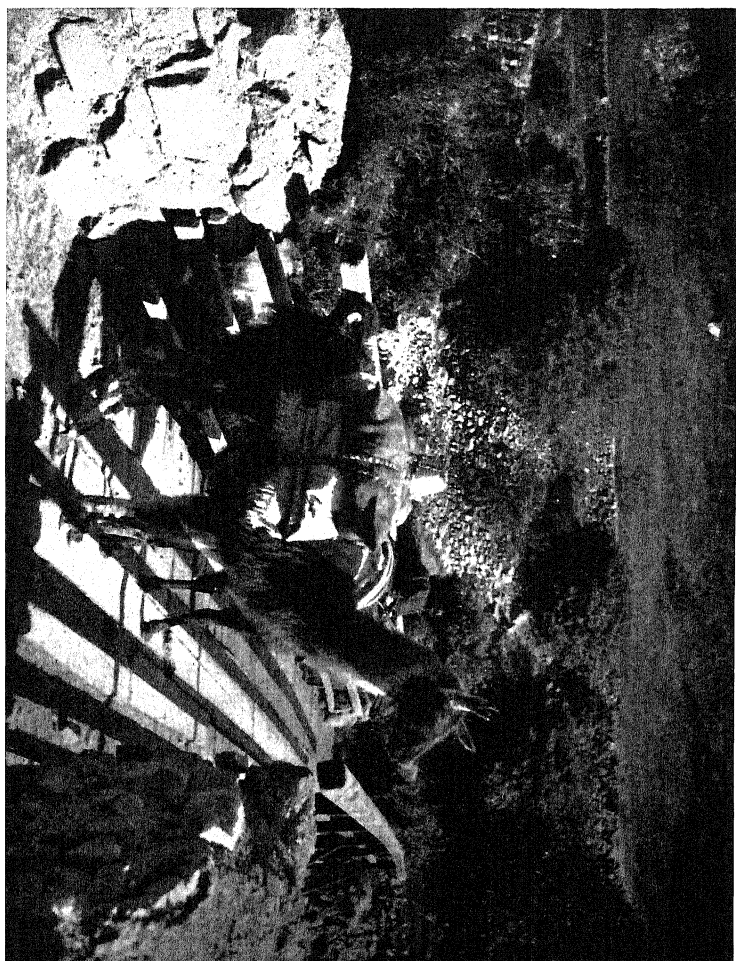
As we approached the pampas of Cañete, the hills became wilder and, if possible, even more desolate. They rise in the west to great brown peaks, and the plain over which we travelled was in places littered with rocks. Nowhere was any sign of life or human dwelling. Not even the cactus can grow in this part. We deserted the new road and struck out over the stony plain where wheel tracks seemed to show a way.

All at once I saw ahead across the burning sand a line of green. We raced towards it and in a few minutes crossed the first of the irrigation canals. The desert reached to within a

PLATE VI.

A LADEN LLAMA.

The pack is laid on rugs, and is secured by a cord of alpaca wool passing round the body. The bright object on top of the pack is a cooking tin.



yard of the water, but along the bank of the canal grass and weeds had sprung up. On the other side cotton fields covered the pampas. The trees were over six feet high and the white balls of cotton were bursting everywhere. The water brought from the far side of the hills had completely vanquished the desert, and wherever it had been run off over the land from the main canals the settler's task was to keep down the weeds and wild flowers. In the cotton bushes were flying finches, flycatchers, anis and many other birds, and on every side were the new shacks of the settlers. The water had only recently reached this part of the pampas and in many cases the crops we saw were the first to be harvested.

The system of irrigation at Cañete is simple. There is ample water in the Cañete River, but the valley is separated from the pampas by a line of hills. The river was therefore tapped at a point above the level of the pampas and a canal led off to it through the hills. The hardest problem was to select the point for the intake and to protect the dams there against the periodical floods. These are excessively violent after a cloudburst in the mountains, and as the river rises it may easily wash away dams, floodgates and everything which stands in its bed. At the time of my visit the engineers were busy repairing the damage of the previous year and providing new channels for storm water so that it should not overflow into the canals. If one of the canals is cut by floods it means that the crops which it waters remain dry till the damage is repaired.

The first attempt to irrigate the pampas at Cañete was made over a hundred years ago by one of the Spanish Viceroys, the first Marques de Cañete. His canals still contain water.

We passed through some miles of cotton fields where women were pulling the white down and piling it in heaps. It is then stuffed into sacks and sent to the ginning mill on the

backs of mules. The roads are not as yet good enough through the irrigated lands to enable heavy motor transport to be used. Motor tractors are, however, used to cultivate the land; some settlers think mules or cattle would be cheaper, but there is not enough feed for them.

The engineers are housed at a camp built on the American plan with gauze screens to the windows and every sanitary device. Bottles of quinine stand among the cruets on the dining-table and the men are supposed to take a couple of tablets for dessert every other day. Those who have ever seen a case of malaria take their dose. The people who boast they have never had an attack and think they are immune usually live to boast how badly they have had it.

The American engineer who directed the Cañete project was away in the north at the time of my visit at work on the new Olmos scheme. The resident staff were young Peruvian engineers who seemed fairly content with their lot in this lonely outpost. The huts of the settlers are springing up round them on the desert and one or two have begun to build permanent houses. At the village of Santa Barbara, or at Cerro Azul, which can both be seen in the distance near the shore, is more society, and the men enjoy at rather rare intervals trips to Lima.

Besides the Peruvian engineers the company at table included a young American cotton planter, enthusiastic over the quality of the Cañete product, and an American botanist sent by the Government to experiment with the growing of Californian fruits. There seems no reason why Peru should not produce as good apples, pears and peaches as North America, though at present the quality is inferior. I doubt if the botanist could ever be persuaded to leave his nurslings at Cañete for a trip to Lima unless he was obliged to go to secure some new seed.

After the midday meal every one tramped off across the sand, or rushed away by car to their own tasks. My guide and I went up the valley to see where the main canal issued from the tunnel through the hills. Then we crossed the hills along tortuous ledges which wound steeply upwards, crossed the top and then dipped down into the Cañete Valley, lying green below us on the banks of the river. The embankment of the canal on this side of the hills forms the roadway as far as the intake, where the water is drawn off from the river.

Two small black and white kingfishers were darting about at the intake and perching on the sluice gates, and I saw another larger species—blue with a white collar—flying upstream.

In this valley can be seen the traces of Inca irrigation on the slopes of the hills, and the terraces, or *andenes*, which they made for cultivation. The ruined walls of their villages stand by the side of the terraces and canals. For some reason the Incas kept to the higher parts of the valley where the sides are steep. These areas have long been deserted, and, the Inca canals having fallen in, the land round them is now as barren as the day they were dug.

The Indians of to-day, of whom there are plenty in the valley, live near the river banks and lead off their canals to water the low-lying lands on either side. Their industry makes the valley of Cañete a bower of verdure, where round the maize fields grow poplars, olives and bananas and avenues of pepper trees (called "molle") line the road, drooping over it with their graceful willow-like foliage. Vines are also plentiful here, and in the cottage gardens are oleanders, cannas, and many other bright flowers. Cattle graze in the pastures and strings of laden pack donkeys pass along the road. This luxuriant verdure in a valley bottom with a sudden change to bare hillside at the line of the highest canal is, I found, typical of

Andine scenery. Trees dappled with sun and shade filled the floor of the valley as far as we could see, till projecting crags and great peaks rising above them closed the view.

My guide refused to let me sleep that night at the engineering camp, although there was a good guest room there, and insisted on carrying me off to the house of a sugar planter at Santa Barbara. We called on the way at a farm where a settler was supervising the building of his new house, and picking him up, went on over the pampas towards the coast. We were told to make a detour as the regular road was in bad repair, but no one was sure of the way and darkness fell as we were winding over sand-dunes and crawling through cotton fields. Then we came to more settled country where there were old pepper trees and long walls with dusty roads between; cotton gave place to sugar, and in ditches by the roadside frogs croaked. We were in an area still reached by the canals of the Marques de Cañete.

Cotton and sugar mills appeared, each little farm having its own. We crossed a railway track and drew up at the side of a long white building with a clock tower.

"The sugar mill," said my guide. "The house is on the right."

Out of the darkness came a chorus of barking and the forms of two huge wolf hounds appeared at the head of a flight of steps. The planter himself appeared all in white on the verandah, followed by a pair of spaniels. He bade us welcome and showed us into the house.

It was the last kind of house I expected to find near the pampas of Cañete. We passed through a handsome hall hung with water colours into a great lounge with rugs and skins on the floor and several deep armchairs. Off this lounge other salons opened where soft electric lamps glowed upon divans

and curio cabinets. I thought my guide must be a magician to summon up such a palace out of the desert, and I became convinced of it when I found a real bath upstairs, and was later served with dinner on a damask tablecloth, with a bowl of roses in the middle and Japanese servants hovering at my elbow offering red wine or white.

It only needed the fact that all the people present spoke excellent English to make bewilderment complete.

Our host's invitation to drive with him down to the beach after dinner came as a reminder that we were after all on the West Coast. The object of our going was to see how the new pier was standing the battery of a Pacific blow, and to reach the pier we had to drive across two miles of shingle. The headlamps showed the ruts made by previous trips and we followed them, the driver loudly declaring he was on the right track, in spite of the opposition of those within the car. At length we saw the moonlight on the sea ahead and the red lamp on the pier. The car was driven on to the pier itself and along the 400 metres to its head. There was only just room between the railroad track and the parapet, but we reached the end, where the rollers were breaking.

Out at sea were the lights of two steamers waiting to take on board a cargo of sugar and cotton for England when the sea should moderate. It was useless to think of bringing lighters alongside that night as the long rollers were coming in and sweeping under the pier, making it tremble at each onset. The pier had been built on concrete piles, and this mild storm was regarded as a test of its strength.

The port is quite exposed, as the hill of Cerro Azul to the south gives very little protection. An English skipper told me he was loading cotton here not long ago and had announced

that he must leave the same night whether his consignment was complete or not. Accordingly, the final lighter-load was sent out to the ship in spite of a rising sea. After it had finished and was going back to the shore it broached to a sea and turned turtle. The skipper said he was watching at the time through his glass and within a few moments the shore was lined with frantic women. Two of the four men on board came to the surface and were rescued by a motor launch. The others were not seen, and all hope had been given up when they suddenly appeared. They had been hanging on under the upturned lighter and finally dived down and out. Both were rescued, but in an injured condition.

Such dangers are constantly incurred at these open West Coast ports. The rollers run with tremendous force, and it was a splendid sight to see them coming in one after the other leaving a wake of silver foam in the moonlight. One saw the water heave at one's feet and then felt the blow against the concrete columns as it rushed underneath. The rollers are not broken and choppy as are the waves, for instance, of the English Channel. They are in long smooth lines and between them the water looks calm.

Next morning I inspected the sugar mill, where the distillation of rum is the chief work. Sugar making goes no further than the molasses stage. I was surprised to hear that the sugar cane itself provided enough fuel to run the entire boiling and distilling plant.

In the neighbouring cotton mill women and girls were cleaning the cotton by hand. The owner of the mill gins cotton for the growers free in exchange for the seed, which is embedded in the down when it is taken from the tree. The cotton here is said to be almost of Sea Island quality, and has a staple of about $2\frac{1}{2}$ inches. The crop is held to be more reliable than

sugar as it is less liable to wide fluctuation in price. Some cotton we saw was dropping from the trees for lack of labour to pick it.

Among the many birds which I saw in the cotton fields, one of the most conspicuous was the black-headed siskin—a bright green finch with a black head and a song like a linnet's. I found it common all along the fertile valleys of Peru up to some height in the sierra. In the desert I saw two small owls, a little red hawk like a kestrel and a wren-like bird with long legs.

On the way home we took a different route after Mala through a town called Flores, and as we rose over the hills beyond I looked back and saw the place lying like a real bouquet of flowers in the desert, with white church towers rising out of a mass of green and the blue sea beyond. It was one of those entrancing vistas such as the austere Andes occasionally disclose.

CHAPTER VI

“OVER THE HILL”

THE easiest way to cross the Andes from Lima is to take the Central Railway up the valley of the Rimac to a point 15,600 feet above sea level where the line cuts through the Central Cordillera, and runs down on to the tableland or puna between the Central and Eastern ranges. From Oroya, at the foot of the Eastern Cordillera on the western side, is a motor road over the pass and down into the valley of the Chanchamayo River, a tributary of the Amazon. Both ranges can be crossed in a single day and the traveller arrives at Tarma, on the eastern side, in time for dinner.

But this is to pay scant respect to one of the greatest mountain ranges in the world, and the Andes may rebuke such scampers over their back by giving the hurrying traveller a taste of *soroche*, the mountain sickness induced by rarity of the air. Everywhere I went before starting for the sierras people spoke of this *soroche*, and asked me if my heart and lungs were strong. Very few had been over the top themselves, and those who had declared that people commonly arrived at Oroya violently ill, but that the railway staff were used to dealing with patients.

I inquired if the effects were dangerous, and was told that they might be. Deaths, I was assured, were not unknown, and one man told me he had seen a doctor while testing a patient's heart, fall down unconscious himself. I was advised at least to buy some “anti-soroche” mixture before starting.

It seems a deeply implanted instinct all over the world to

impress a traveller with the dangers that lie ahead of him, and in nine cases out of ten such warnings need not be heeded. Disregard of the tenth may lead to an adventure, but most people live to tell the tale of it.

Even medical men refused to recommend travel at 15,000 feet for the benefit of my health, and when I left Lima friends bade me what I thought was a needlessly solemn farewell.

I only went the first day as far as Chosica, thus obeying to the letter the warning I had received to take the hill in stages. Chosica is only 3,000 feet above the sea and some Limeños live there all the year round, going backwards and forwards every day. Many families migrate there in winter—from June to September—for Chosica lies above the clouds which cover Lima at that season, and is known as one of the sunniest spots in Peru. It contains some streets of pleasant villas in gardens and a good hotel.

The broad plain of Rimac has here narrowed to a valley with steep bare sides. The river is joined a little way above the town by a tributary from a side valley to the north. Both are strong-running streams and after storms in the mountains, quickly flood their banks and tear at the stony valley sides so that landslides follow. Two years before my visit the railway, following the bed of the river, had been washed away, and for months the only connection with the upper valley was by mule back. A new line has now been cut higher up the hillside.

The fields by the river banks are full of cotton, and in the side valley, which I followed up for some way, are crops of lucerne, pastures where cattle and horses are turned out and many orchards. This is a favoured region between the heat of the coast and the winds and frosts of the sierras, and chirimoyas, paltas (alligator pears), apples, oranges, limes and lemons all flourish. Peach trees still carried a little pink blossom although

this was autumn. Under the trees were crops of yuccas and sweet potatoes, and on every side men were at work turning over the soil and clearing the canals.

As soon as one came to the highest canal, vegetation ceased completely. Only cactuses—mostly the perpendicular kind—and a few small flowers were able to maintain life in the rocky soil. The cactuses bore some yellow and some pink flowers, and among the other plants were a kind of small yellow helenium and a Michaelmas daisy. Lower down below the canals was a plant (I believe *Mutisia acuminata*) with leaves something like small oleander leaves and an orange and red flower.

Returning along the road I saw what I at first took to be a moth hovering under a pepper tree, but almost at once realised that it must be a humming bird, a creature I had never seen alive. This one allowed me to come up close to it. It flew in a most unbirdlike way in sudden jerks like a pantomime fairy on a wire. Sometimes it was over my head; then it slid downwards a few feet and hovered close to my face. It was brown in colour as far as one could see, with white on the end of the tail, but its wings moved so rapidly they were invisible; one could only hear the hum. The little bird seemed to be snapping at some minute insect with its long curved beak, and in a moment or two shot upwards on its invisible wire, hovered there a few seconds and then slanted down to a twig, where it perched for a few seconds more before taking wing again. When it was close to me I sometimes heard a faint “cheep,” but the note was so high-pitched I was hardly sure at first that it was the bird’s voice. I had always supposed a humming bird to feed entirely on nectar and imagined it as flitting from one flower to the other on rainbow-coloured wings; yet this sober-plumaged bird snapping at insects in the lane, was such a miracle of movement that it surpassed the expectation.

Going back to Chosica down the main valley, I saw a family of lesser whitethroats, a pair of small red-breasted warblers who chattered angrily at me and a little kestrel-like hawk. Eagles and buzzards were flying over the mountains.

The chief meeting place at Chosica is the railway station, and the platform serves as promenade for the youths and maidens. The evening train from Lima brought a number of week-enders to swell the gathering, and as it was Saturday a military band played and some people danced.

Next morning the railway station continued to serve the function of a plaza, for it was Whit Sunday and all the athletic and patriotic associations of Chosica, headed by schoolchildren in white, carrying Peruvian flags, assembled on the platform to greet another band from Lima. A file of baby girls marched slowly across the rails as the train ran into the station vigorously ringing its bell.

The train was one of the Sunday excursions which the Central Railway runs to Rio Blanco and back, allowing Limeños to see some fine Andine scenery without having to spend a night in the hills. I found a chair in the Pullman car and began to think that travel in the Andes was not so arduous as I had been told.

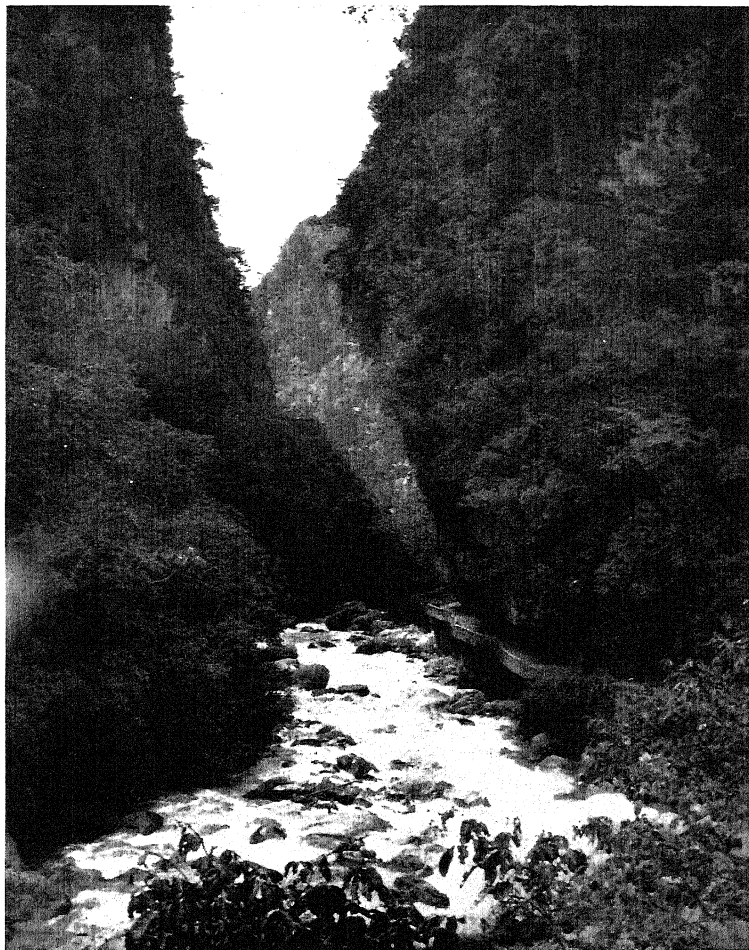
From Chosica to San Bartolomé are cotton fields, and from here for some distance further up many orchards. While the engine is being turned on the turntable at San Bartolomé and hooked to the other end of the train there is time to inspect the various fruits which are offered for sale on the platform. There are strings of limes and oranges, baskets of apples and heaps of chirimoyas and paltas. The chirimoyas are here as large as melons and are very sweet and luscious.

The train pulls out of San Bartolomé up a steep bank and winds round horseshoe bends, climbing fast till the roofs of San

PLATE VII.

CHANCHAMAYO.

The road from the Andes is here scooped out under the cliff, and on the other side is built out on supports over the stream, one of the headwaters of the Amazon.



Bartolomé are seen below. After a few miles the line crosses Verrugas Bridge, spanning a chasm 250 feet deep. The bridge is 575 feet long, and is named after the mysterious and deadly disease which infects this part of the valley. The cause is unknown and therefore the malady cannot be fought. People fly from the neighbourhood of Verrugas, and there are no houses in this part of the valley. The railway company brings out its workmen by special cars and at nightfall takes them away again.

At Surco, the next stop, fruit has given place to flowers, and peasant girls come through the cars with posies of violets and carnations. At Matucana, nearly 8,000 feet high, the people are distinctly Serrano Indians. The women wear homespun clothes in bright primary colours with wide panama hats, and the men wear ponchos and mufflers. The air is here fresh and invigorating, and the scenery is almost Alpine. At 8,000 feet the coastal climate has given place to the sierra type. That is to say rain falls at intervals, usually from October to March. In the first three months of the year there are frequently heavy storms. It is puzzling at first to hear this rainy season called “ winter ” and the dry season from April to September “ summer,” for at Lima “ winter ” is understood to mean the cool season from June to September, and “ summer ” the sunny months from October to May.

The result of the rain is to clothe the hillsides with grass and flowers, and to enable corn to be cultivated to a great height. I walked up a side valley at Matucana beside a rocky mountain torrent which might have been in Wales or Switzerland. On either side were fields of lucerne where cattle were at pasture, and on the banks of the streams were bushes of wild heliotrope with the authentic cherry-pie smell, and yellow calceolarias. On the stonier parts of the hillside were scarlet sal-

vias, bushes of purple flowers like asters, and tall American aloes, fifteen feet high, mostly in seed.

Dippers flew from rock to rock in the stream and bowed from each, just as they do in Merioneth or Westmoreland, but these dippers were smaller and darker than ours and had a white cap as well as a white breast. A large humming bird with a whitish tail flew up and down the stream hawking insects and hovering over the water in a vertical position.

The sun left the valley early and the purple shadows made wonderful play among the hills. In the west, over the eucalyptus and pepper trees, the sky was clear green beyond the hills lower down the valley. Pink cirrus clouds drifted across the green and then dusk fell and the valley was soon dark.

At Matucana one meets the llama. This animal is still the common beast of burden in the sierras of Peru and Bolivia as he was in the days of the Incas. He no longer exclusively provides wool for clothes since the introduction of sheep from Spain, nor is his flesh so much eaten as formerly, but as the pack animal for a poor man the llama still holds the field in Peru. He costs little or nothing to keep, for he browses on a coarse grass which grows freely on the mountain side; he sleeps contentedly in the open at great heights, and requires neither saddle nor bridle. On the other hand the amount the llama can, or will, carry is limited to about 70 pounds. If more is put on his back he lies down and refuses to budge until the excess weight is taken off. He is sure footed on the most perilous path, though I have seen him shy at a solid wooden bridge; and if he is handled with tact he is usually good-tempered. Displeasure is, however, expressed by the ugly habit of spitting at the offender; and to my mind the llama's mild and liquid eye, so attractive to some people, has a somewhat supercilious expression. Perhaps it is the tilt at which he carries his head. Anyhow I

never felt inclined to make a pet of a llama above the age of six weeks.

The Monday train for Oroya reaches Matucana about 10 o'clock, and after a short halt goes on up the steepening gorge of the Rimac to Viso, where the hillside is so abrupt that the train has to be backed for some distance and then drawn forward again up a double zigzag. The sparse verdure which clothes the hillsides near Matucana gradually dies out as the line reaches higher altitudes. Bare cliffs and precipices tower up on each side of the defile, and above them are occasional glimpses of high peaks.

Here and there are more fertile spots, and at Tamboraque, where the valley widens, I saw maize fields and hills terraced for crops far above the line. The higher plots were golden, and I think bore wheat or barley ready for harvest.

All the way up we passed flocks of llamas carrying packs of grain, and often driven by women and boys. The leading llama as a rule carried scarlet tassels on his ears and sometimes bells hung from his neck. The women drovers wore long skirts of bright blue or red wool, very wide and apparently covering a number of petticoats. Their capes were often green and over their shoulders they wore the *quepi* or blanket, tied across the breast, which contains the baby or whatever else they have to carry. Their features were dark and heavy, with rather prominent cheek bones and black hair in plaits. Some of the younger ones might be called good-looking, but as the Serrano Indian grows older his or her features are veiled by a steady accretion of dirt. At high altitudes the skin is apt to crack, and washing certainly tends to make it do so. The Serrano tries to avoid this danger.

After San Mateo, lying at the bottom of a deep valley, the line enters another wild gorge and dives in and out of tunnels,

at one place crossing a chasm between two tunnels by the bridge called "Infiernillo" or "Hell Bridge." Near here the river has been diverted through a tunnel and the railway track laid in its dry bed.

At Rio Blanco the line has reached 11,500 feet and I was on the look out for symptoms of *soroche*. A notice was hung up in the restaurant car saying that passengers who suffered from the effects of the altitude could obtain cylinders of oxygen from the guard. This hardly ministered to one's appetite, and when I heard the very brakemen talking about *soroche* I thought something would surely happen to me before we rose much higher. To my surprise, however, I could detect no change in the density of the air at Rio Blanco nor yet higher at Casapalca (13,631 ft.).

It was colder, and the blue lupins which had covered the hillside for some distance above Rio Blanco had now disappeared. The barley plots had also vanished and on every hand the mountain side was brown and bare, except where patches of dirty snow whitened it. Casapalca is a copper-mining centre and has the usual unattractive appearance of a mining town. At the bottom of the valley is a power station, for there is here still a good head of water in the Rimac.

After some more zigzags and several tunnels the line begins to swing round a wider valley in horseshoe bends till it reaches at Ticlio the entrance to the Galera Tunnel at 15,600 feet. By this time *soroche* had attacked two small children, who with their mother and Indian nursemaids shared the parlour car with me. Headache and nausea are the usual symptoms of *soroche*, and from the way the children screamed they were evidently suffering acutely from the first. The second symptom was only too apparent.

I had been told that by sitting quite still one could some-

times defeat *soroche*, but as this seemed rather unsporting I thought I would give it a chance, and jumped down on to the track. But even walking about at this altitude I could feel nothing but the cold. Snow lay all around on the mountain tops, and on the summit of Mount Meiggs, named after the American who planned and built the line, is a red and white Peruvian flag painted on a sheet of iron.

On the other side of the tunnel the views of the peaks to the north are even more striking, as they tower up in jagged contours above the line. Many of the peaks where the snow does not lie are tinted with bright colours as if they had been dusted with the powder from a box of crayons. These streaks of red, blue, green, and bright yellow are due to the mineral deposits and give pleasing relief to the general brown and grey of the mountains.

The waterfalls had frozen near the exit from the tunnel and icicles hung from the banks of the streams. Snow was falling, but among the clumps of coarse grass llamas grazed, and as we went further down we saw great herds of them roaming the pampas.

We passed several mining villages on the broad grassy plains characteristic of this *puna* region between the two Cordilleras, and at each of them goal posts marked the local football ground. An altitude of 14,000 feet does not deter American miners from football, nor English engineers from golf at Morococha.

Much of the land round here has been bought by the Cerro de Pasco Mining Corporation as the farmers declared that the fumes from the copper smelter at Oroya were ruining their crops. It is difficult to see how the fumes can do the crops or stock much good, as people at Oroya are nearly suffocated by them and sometimes have to go about with handkerchiefs over

their noses and mouths. But the Mining Corporation run the farms apparently with profit, and carry, I was told, 17,000 head of cattle on them.

The land round Yanli, a poor-looking village, is run by Indians on the community plan. As the train stopped here I saw a mother washing in a stream with two children at her side. When she had finished she rolled the clothes into a *quepi* on the ground. The older child lay down on its back on the *quepi* and the mother tied the ends of the blanket round its chest. The *quepi* being secured in this manner the child got up and walked off with it, while the mother slung the smaller child on to her own back.

It was dusk when we reached Oroya through as dreary a gorge as ever I saw, and I was not sorry to find a car waiting at the station, and to be promised a quick run over the Eastern Cordillera and down to Tarma on the Amazon slope.

The road out of Oroya winds up a narrow valley as bare of vegetation as a heap of ash. The lights of the car shone on stones and rocks and whitish, overhanging cliffs, and sometimes failed to pierce the blackness of a gulf ahead, where the road bent suddenly round the side of a precipice. Above us lights of cars ahead would suddenly flash at us across the chasm and disappear, leaving in view a rear light winding along the invisible mountain side like a snake. Below us shone the lights of following cars, and as we all turned and turned, facing now a car on the hill above and now one in the valley below the lights seemed like fireflies playing over a field of corn in pairs.

The moon, nearly full, was hidden by scurrying cloud, and only gave a faint gleam now and then. Once when nearing the top of the pass I saw strange shapes moving like shadows down the valley, now shallow and grass covered. They were llamas walking in single file to an Indian's hut. How any one could

scrape a living from the soil at this altitude I could not imagine, but in favoured spots barley and potatoes are grown up to about 14,000 feet.

As we began to cross the divide the clouds enwrapped us, and we could see only a short distance along the road ahead. It is only just that the Andes should veil their secrets from those who cross by motor car, but I should have liked to see their summits under the moon.

We reached the other side of the grassy top and began to drop down hairpin bends to Tarma. We sank below the clouds and chilly air to warmth and trees, but still saw no house lights ahead. For over an hour we went on down and down, always turning, until at last lights began to gleam on the hillside and the smell of eucalyptus was borne against us on the rushing air. Then we ran between avenues of the trees and the headlamps played tricks on their rows of trunks. We passed houses, and, as it seemed whole villages, and still went on down and down. Once a band of Indians dressed up for dancing, flashed into the light. The leader, in a red cloak and broad hat, shouted at us as we swept by, but the night swallowed them up before I was quite sure whether they were real or whether I had fallen asleep.

At last Tarma itself appeared out of the trees, and passing under an archway we ran down a narrow cobbled street to the door of the hotel. And here with a good dinner before me, at the beggarly height of 10,000 feet, I felt those same symptoms of *soroche* from which the children had suffered at Ticlio. As I went dinnerless to bed I swore never again to refrain from eating when crossing the hill. This is the advice one receives everywhere, but in my opinion nothing is so likely to bring on *soroche* as hunger.

CHAPTER VII

CHANCHAMAYO

TARMA is a small white town with narrow streets and a reputation for cleanliness. It has the usual flower-planted plaza, and smells of eucalyptus. The roads which lead up and down the valley from Tarma are lined with eucalyptus trees, and every field of maize has a row on all its four sides. In fact wherever one turns, lines of greyish-red trunks, topped by columns of greyish-green leaves make rhythmic patterns of light and shade against the surrounding hills. The Andes are here brown and rounded, but square plots of corn gild them in patches high above the town.

Numbers of peasants were coming into market early in the morning up the road from the east. Most were women, walking with enormous bundles wrapped in the *quepi* on their shoulders. All the women wore the same type of homespun clothes and white panama hat. Some rode donkeys, and several strings of pack animals came along the road carrying eucalyptus boughs for fuel.

At a little village a mile outside the town a dozen small boys stood outside the schoolhouse till their girl teacher came to the door and beckoned them in.

I found a bridle path between the edge of the hills and the maize fields, and walked along it in the shade of the trees. Groups of women were picking maize cobs in the fields and piling them in heaps. In the ditches grew clumps of arum lilies and a solanum bush with a bright blue flower and green seeds like grapes. Another bush had orange flowers like lilies.

Above the path the hillside was bare and stony, growing only aloes and cactus. Men driving sheep and goats passed along the path, and women, all spinning as they walked, went in towards the town.

Tarma is the highest inhabited point of a valley through which flows one of the small tributaries of the Amazon. At Tarma it is called the Tarma River and lower down Chanchamayo and Perene. The mule tracks along the valley sides between Tarma and La Merced have been recently widened so as to carry motor cars, and a regular service of light trucks with seats for passengers is now maintained, the cars going down one day and up the next on account of the narrowness of the road.

For the first few miles out of Tarma the road slopes gently down a broad valley with maize fields on each side of the river, here little more than a mountain stream. The banks in May are golden with broom, and here and there are clumps of arum lilies. Eucalyptus and willow trees line the road, and there are glimpses of green meadows with trees in a row along a stream that might be in England but for the bold mountain-side behind.

After a while the valley narrows and the road runs through a gorge with gradually rising walls. It crosses from one side to the other on stone bridges and soon the river is a long way below. Fast as the road winds down the river drops faster in leaps of foam, so that soon it is almost out of sight under the tangle of bushes which now begin to creep over the valley sides. A tunnel looms ahead and into it the car dives. It is so long that the exit at the other end is only a faint speck of light and the car's lamps must be switched on.

When the car issues from the tunnel at the eastern end it stands on a road just wide enough for it, cut like a shelf along the side of the gorge about 2,000 feet above the river bed.

Through the clouds which often hang in this part of the valley one can see the white streak of the road dropping in zigzags down the hill, and beyond, falling across the grey wall of mountain on the far side of the gorge, the silver ribbon of a cascade.

The car runs rapidly round the zigzags, and then the gorge narrows again and the sides become almost sheer. The road winds in and out round projecting cliffs, almost scraping the rock on one side and sending loose stones flying over into the abyss on the other. There are in many places no more than four inches to spare, and from one's seat on the outside of the car one can look over and down at least 2,000 feet into the bed of the river.

The driver usually takes this opportunity to recount the details of the latest fatal accidents.

"That is where one car went over a month ago," he says. "If you look over the edge you can still see what is left of it lying at the bottom."

"Every one killed?" some one asks.

"No, only two," replies the driver, skirting an ugly-looking rock. "But two others were badly injured. It is all a question of care—unless of course you run into a fallen rock or a pack mule. New drivers won't go slowly enough. They don't understand that you must have time on these corkscrew bends to get your wheel over. If you press just a trifle too hard on the accelerator you will reach the edge before you have turned enough and then over you go and nothing can save you."

The driver who took me down had a great deal on his mind about the road and replied at length to the many questions the other passengers asked him, turning round in his seat to face them from time to time. I hoped he had eyes in the back of his head and that his head was a strong one, for the passengers

kept giving him beer, and this, though light enough, seemed to be loosening his tongue.

Sometimes whistles and shouts ahead warned us that a mule train was coming, and we looked for a fairly wide place to stop and let the animals pass. Several were carrying red forest timber to Tarma—a slow process for each mule only carried two planks.

We had now left the dry atmosphere of the crest and western slopes of the Andes. Constant cloud and frequent rain keep a thousand streams running on this eastern side, and their banks and the cliffs over which they fall were covered with maidenhair, hart's tongue and many other ferns. Calceolarias rioted in great clumps, growing ever taller till they were as big as the broom bushes we had left behind at Tarma. Here I saw my first wild begonias, pale pink ones; and when we slowed down to pass a stranded car I found an orchid with a sheaf of slender purple flowers. A little lower we passed the first palm, and then on the hillside I saw the first forest tree, drooping its umbrella-like head over the scrub around. This tree was followed by others, the first outposts of the countless legions lower down in the Amazon Valley, and soon the hillsides were covered to the top.

At the point where the woods begin is a wooden house used as an inn and called "Chicotambo," a mixture of Spanish and Quechua meaning "little inn." Here we were served with wheaten cakes and coffee in a dark room whose only light came from a space between the wooden wall and the roof. Through this space one could see the woods across the valley and the skyline of the hills. A buttery-hatch behind the table showed a smoke-blackened kitchen and the figures of a stout Indian woman and a small girl bending over the fire. Many great cauldrons and pots and pans littered the kitchen, and I was told

this Indian woman, the owner, was getting rich fast since the opening of the motor road. She kept a small store as part of the inn, and in it were boxes of granadillas, the fruit of the passion flower, which taste like an improved pomegranate.

Below Chicotambo the woods become tropical—or, to please the botanists, sub-tropical. Creepers begin to climb up the trees and hang in festoons across the path. The trees themselves grow taller and there are many palms and bamboos. Thousands of ferns cover every patch of damp rock and perch in the crotches of the trees. One feels the first faint breath of the steamy jungle air; the dry cold nip of the sierra is gone, and one plunges down into the dank forest which every moment grows denser and more luxuriant.

At a few places there was room for banana plantations and papaya trees, but for the most part the road was pinched too closely between the rocks and the river for any kind of cultivation. At one place the cliffs so overhang the stream that the road has had to be scooped out under them, and carried on a kind of platform over the river. The steeply-rising cliffs clothed with palms and many drooping trees here form the gateway to a region of ever growing enchantment, and a little way beyond is the famous Pan d'Azucar, the sugar-loaf rock which rises abruptly in the middle of the valley, wooded to its conical top.

Begonias and orchids were still blooming by the roadside, and suddenly a great splash of brilliant blue floated by the car, and I realised that we had reached the haunt of the morphos butterfly, the king of the Amazonian forests. These great creatures, flitting through the woods of Chanchamayo like red admirals in an English garden, seem at first too brilliant to be real, but one soon grows accustomed to them and begins at last to despise them as being rather too common.

It was dusk in this deep and bosky ravine when we reached a suspension bridge hung from steel cables over the river. Two cars were on the near side ahead of us, the rear one waiting while the other unloaded its cargo of iron rails. This was too heavy to be taken across as one load, and the two men in charge of the car were carrying over the rails in bundles. The second car could not pass till the first was over the bridge, and we were held up by the two of them.

I crossed the bridge on foot and felt it sway beneath me at every step. When at last the first car was light enough to cross the bridge creaked and rattled, and in the half light I saw it bend beneath the weight. The men proposed to stop on the roadway on the other side of the bridge to re-load their car, but we persuaded them to move on to a wider place and allow us to pass.

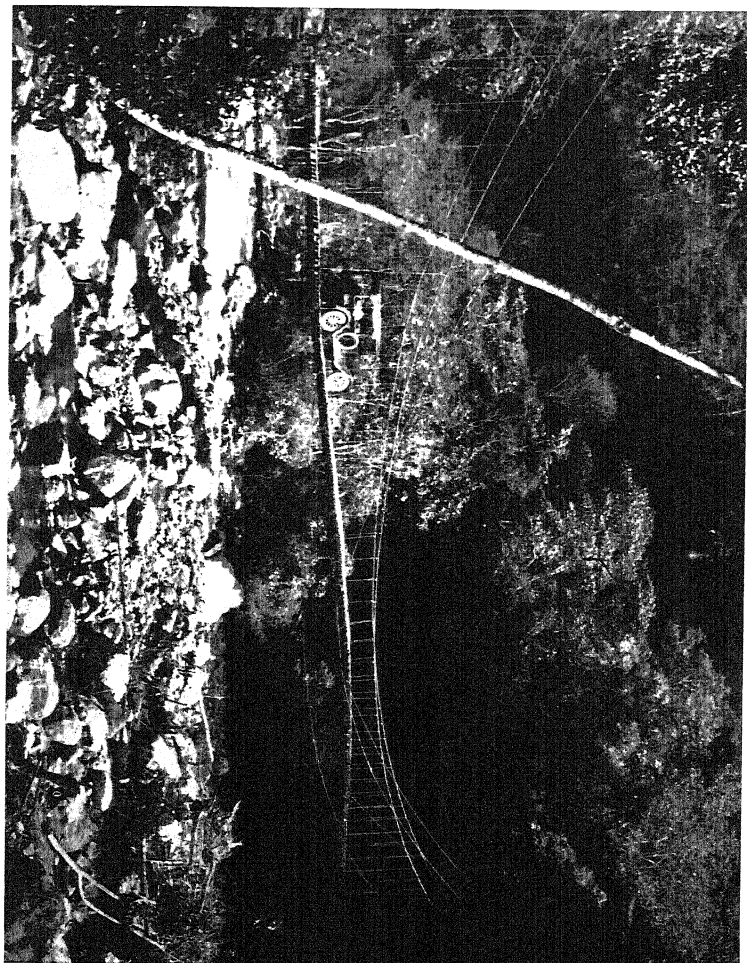
In the darkness we sped on, the car lights flashing on tree stems and creepers, and sometimes on night-flying moths and huge bats. After some time we came to more open country and a wider valley which is a great coffee and sugar-growing district. We called at a big farmhouse to deliver some cargo, and found the men there wearing wide panama hats and the thinnest clothing. The last people we had seen were muffled in ponchos and shawls, but the run had taken us down about 6,000 feet into almost tropical warmth.

We went through a village with one long street called San Ramon, and after crossing on foot two more suspension bridges arrived at La Merced, a village of a few scattered houses standing well back from wide streets. In this last outpost of civilisation between the Andes and the Amazon I was lucky enough to hit upon a hotel which had been opened the week before by a Belgian lady. Where I had expected some discomfort I found cleanliness, good cooking and mosquito nets—the last a real

PLATE VIII.

BRIDGE OF SAN FELIX.

The steel cables are slung from rocks on the valley sides. The bridge is sagging under the weight of the car.



luxury for it saved me rigging up my own. Malaria (*paludismo*) is as much a word of dread in the montaña as *soroche* is in the sierra.

The company at the inn was another surprise, for it included a Peruvian deputy and a traveller for a well-known firm of English directories. Both were setting out on the following day for Iquitos on the Amazon, a distance of a thousand miles. They were to travel over the famous Pichis trail on mule-back for eight days, sleeping in the Government *tambos* en route. Like every one who has ever thought of South America, I had for years dreamed of taking ship to Iquitos and thence following the riverways and mule trails into and over the Andes, and coming down to Lima. And yet I had gone prosaically round to Lima by sea and crossed the Andes by railway and motor car to this point where the adventure, as I had planned it, would have ended. I could take it now the other way, and was strongly tempted to yield to the Englishman's invitation to join him.

But the journey by mule, canoe, river launch and river steamer to Iquitos takes at least a month, and I should then be far enough away from the other places in Peru which I wished to see. I looked on with envy while my two friends made their preparations for the trip, oiling their new riding boots and sharpening their *machetes*.

I advised the Englishman to wear his *machete* when he next went to ask his employer for a rise in salary. It is a knife nearly as big as a Gurka's kukri and is worn at the side in a leather sheath strapped to a belt.

"To clear a way through the forest," explained the Englishman, and I think he was quite glad there was a forest to be cleared away with such a formidable-looking weapon. The

Peruvian had a revolver, and was assured by our Belgian hostess that he would probably have to use it, as there was no law in the region through which they were going, and the men on the river canoes were evil-minded.

The poor Peruvian, I thought, was beginning to be rather sorry his public duties called him to take such a journey. He asked if it was true there were cannibals on the trail, and seemed little cheered when the hostess assured him there were neither cannibals nor head hunters on the road, but he must be careful not to stray from it as the forest was full of them.

She so impressed him with the fact that there would be nothing to eat at the tambos that he bought a great quantity of ship's biscuits and packed them in his trunk. I pictured him trying to get at them when he was hungry, and the trunk was well roped to the pack mule.

The roping was a long process and took most of a morning. Some of the mules had to be blindfolded with the *arriero's* coat before they would stand for the packs to be put on, and there was much shifting of packs till all were adjusted. I wondered how the large iron trunks were going to ride, but they settled well across the back of the mule with the rolls of bedding underneath on either side.

"No wonder the trip through the forest will take you eight days," said I to the Englishman, "if this business has to be repeated every morning."

"I shall enjoy it," said the Englishman, with his hand on the hilt of his *machete*. "I would sooner do this than canvass for orders in Putney. And at Iquitos I shall be on board a real steamer and have a fine slack time going down to Rio."

"Is there anything to do at Rio?" I asked.

"Too much," he replied, "unless you are kept busy as I

shall be. But at least you can talk Portuguese, and forget this Spanish which sticks to my tongue."

The Peruvian was busy eating what he was told would be his last real meal for a month. I found him finishing his eighth egg and feeling more or less independent of the tambos on the road.

The saddle mules were brought round to the hotel and both the travellers mounted, cheered by some last words of caution from the hostess as to the way to deal with snake and scorpion bites. I went with them some distance on foot, and at last with regret saw them ride off along the forest trail.

I wonder now how they fared on the journey and whether they came without mishap to the river and at last to Iquitos. I have no doubt they did, and that they had enough adventures by the way to fill a book.

When the post for Iquitos with the two travellers had left, I wandered down to the river. The small grandson of my hostess was my guide. His father was an Englishman and the boy talked English with a trace of an American accent and sometimes a Spanish inflection. He refused to talk anything but Spanish to his mother and grandmother although they begged him to talk French. His suit of blue overalls topped by a high-crowned panama hat aptly illustrated the North and South American mixture which he was, and the eagerness with which he showed me wasps' nests in the banks and where the orioles built in spring made me think his father had been an English countryman's son. But I daresay a bird's nest means pretty much the same thing to a boy all the world over.

Near a coffee mill where the beans were drying in the sun we saw a tree covered with bright scarlet flowers in form like acacia. Several humming birds were hovering near the tree,

and in the branches were a pair of black and gold orioles which my guide, whose name was David, called "*chihuacoos*." These birds, he told me, make the long nests with the hole at the bottom which one sometimes sees hanging from the boughs.

From here we went down to the river bank along a path which soon lost itself in a jungle of bamboos and creeper. David warned me to look out for snakes and followed gingerly behind. We soon came to the shore, and finding a strip of sand bathed from it. The Chanchamayo was coming down too fast for a swim, and all we could do was to float with one hand holding a rock to prevent being swept away. On each side of the river outside the bends were stretches of water-worn shingle where driftwood was lying, and beyond flood-water mark the woods began, rising on the opposite side to the tops of the hills. These green hills steeply falling to the water's edge reminded me of Lugano or Como, though here the green was not scrub but a forest of palms and other tall trees.

After bathing we went on along the river bank, forcing our way through thickets where creepers had entwined themselves round the living trees and the dead and rotting ones cumbered the ground. Many flowers were growing in the more open patches, including a yellow five-petalled flower with a chocolate centre growing on a bush. I also found a pink orchid with two large blooms on a tall stem.

We came out of the jungle and crossed a banana field to a sugar plantation, where David told me he came to steal cane, and came down to the river bank again at a place where a backwater re-entered it after passing round a low wooded island. The bed of the backwater was shallow and we waded across to the island sinking up to our knees in soft sand.

On the shore of the island scores of butterflies were playing over the sand, far away from flowers or any other food that one

could see. Among them was a small black species with bright blue patches near the base of the wings; a larger red species with black margins to the wings; another with long orange-red wings barred with black; and a large orange one with black veins and silver spots on the wings, very much like a smaller variety of the same family common in the gardens at Lima. There was also a great white butterfly with black veins like a larger edition of one of the European whites.

Hundreds of tadpoles swam in the pools on the shore, and over the river swallows and martins were skimming. These were the most English-looking birds I saw in Peru but some of them had white heads. A white-headed swallow would, I fancy, soon be chivied to death in England by the others.

On the way home we had to scramble up steep banks, for the village lies some distance above the river. Among the tree roots on the banks we saw the wasps' nests. They hang in triangular combs from some twig projecting from the bank, and the wasps—slim brown creatures with red heads—settle on the comb. David explained to me that they were very evil and bit with their tails in a way to make you dance.

On the tree trunks were clusters of what looked like shells or barnacles, shaped like barrels. These, David told me, were the homes of spiders of various colours. They were, I have since found, not homes but condemned cells for these spiders, which are caught and paralysed by a species of wasp, and then imprisoned in the cell containing the wasp's egg. When the larva hatches it finds fresh living food ready for it.

CHAPTER VIII

A GLIMPSE OF THE JUNGLE

I LEFT La Merced as the guest of the Peruvian Corporation of London, on a visit to their coffee estates at Perene, lower down the valley. A good road has been laid as far as the bridge over the Rio Colorado, but this was not strong enough for traffic at the time and we had to change cars. Our "birdcage" truck went back to La Merced and we found another open car waiting for us on the other side.

As we went down the valley the scenery along the river bank became grander and the vegetation more exotic. Tree ferns waved their branching fronds over our heads, and aroids with enormous broad leaves of several colours grew by the roadside. Creepers became more and more abundant and sometimes hung across the road like vines, so that one had to duck quickly, when seated on an open truck, to avoid being caught. Many species of palm, including the stately *palma real*, the royal palm, stood on the hillsides and out of the mass of green across the valley a tall *Bombax ceiba* rose to a head of snowy blossom like some giant white azalea standing in a bed of violets. This tree was, of course, unknown to me, and when I asked its name my host, the Peruvian director of the estate, said it was the tree which produced kapoc, the vegetable down used for stuffing. He produced from under the seat of the car a packet containing a sample of kapoc for Europe, and said he had been asked to see if Peruvian kapoc was as good in quality.

The forest trees increased in size as we went down, and great white trunks rose from the river bank below to the level

of the road and higher, till they vanished among the tangle of leaves and branches overhead.

After a run of some miles we came to a second bridge over the Paucartambo River, where we again changed cars. Here I saw my first Chunchos, as the natives of the Amazon valley are called in Peru. These are aborigines of an entirely different stock from the Serrano Indians. They are coffee-coloured with black eyes and hair. Their features are often good and their expression is as a rule more alert and self-confident than that of the listless-eyed Serrano. Yet the Chuncho is a primitive savage without even the trace of civilization found in the descendant of the Incas.

The keeper of the bridge, an old white-whiskered German, is married to a woman of this kind, and apparently lives in contentment with her and her family in their thatched bamboo house on the bank. Some of the family make an attempt at European dress, but the real Chuncho wears only a single garment, a red-brown robe, stained, like his face, with the fruit of a tree. As both men and women wear bobbed hair and the same kind of dress the only way to tell the difference, the men having no hair on the face, is by noticing how the robe is put on. The man's garment opens at the neck and the woman's at the shoulder.

At the bridge I also met the two sons of my host. As we waited for the luggage to be carried over they showed me some ancient picture writings cut on the great rock from which the bridge cables are slung. It must have been done at some remote past, but so far as I know, nobody knows when, and, of course, there is no clue as to the meaning. The Incas built bridges on the same principle as modern engineers, slinging cables between rocks on opposite sides of the river. The cables

were made from the leaves of the maguey (American aloe). This fibre is still locally used for rope-making.

The director of the estate insisted on taking a picture of us crossing the bridge with his new cinematograph camera, and as it failed to revolve at the first attempt we had to go back and start again.

The subjects of the cinema amateur have a harder rôle than the victims of the ordinary snapshotter, as the operator insists on their gesticulating like Neapolitans and throwing themselves into violent antics even in the warmth of the Amazon valley. Unfortunately I accidentally dropped my stick into the river, but this so delighted the photographer that when he found his camera had not worked he insisted on the stick dropping incident being repeated with the rest of the performance.

I was not able to see the result on the screen, as my host sacrificed his dark-room for my use as a bedroom; but I have no doubt visitors to Perene can now see the historic event from start to finish. I do not point this out as an additional inducement to visit Perene, for in the first place none is needed except the beauties of the spot and the welcome which one meets there, and in the second place I am afraid the supply of visitors even now tends to exceed the accommodation even with the sequestration of the dark-room.

The last stage on the road provided an unexpected thrill, for it was along a ledge newly cut in the face of the cliff, and one of the sons of the director, who was learning to drive, took the wheel. I was not "scared to death" on the road from Tarma to La Merced, as friends predicted I would be, in spite of the loquacity of the driver, because I saw that he knew his job; but to drive along the curving edge of a precipice behind a man who is not quite sure which is the brake and which the accelerator keeps the passenger from daydreaming, and gives

him a quite personal interest in every grating of the clutch. Once when the car refused to take a rise and began to run backwards toward the edge I thought I should soon be looking at the view from the wrong end, but the real chauffeur was at hand to give a word of advice and we stopped with several inches to spare.

The road wound away from the river at last and down a green hollow where between the hills and the Perene River the estate house stands. It is a large building and contains the offices of the plantation as well as the dwelling rooms for the director's family and some of his staff. The sitting-room is a kind of wide balcony open on two sides except for the gauze screens to keep out mosquitoes and bats. One wall is lined with books in several languages and against the other, between the telephones, are piled samples of the estate products, cinema projectors, drawers of minerals from all quarters of Peru, seed catalogues, and English and Spanish magazines. Photographs of prize cattle look down from the vacant places on the walls just as they would do in any English farmhouse; but these cattle were bred in another part of the country, my host told me. At Perene it is too hot for cattle rearing.

At dinner I met an American entomologist who had been collecting in the neighbourhood for six weeks. The valley is one of the most famous in the world among butterfly hunters, and the catching and despatching of specimens to New York and London is almost a local industry. However, this American had secured some species which even he did not know, and having filled some score of tin boxes with his prey, including some hundreds of blue morphos, he proposed to go slowly along the Pichis trail with tent, mules and servant, camping wherever he found good hunting. He gave me a second invitation to share his luck along the Pichis trail, and again I had to refuse.

I am still waiting for a third invitation, but when it comes I shall certainly accept it.

Entomologists are regarded with toleration but some amusement among the dwellers in the montaña. Of course, there is money in it, though not enough to recoup the expense of a special journey from North America. A man who comes so far to hunt butterflies comes for the love of the chase, but, as somebody at Perene said to me, referring to our entomologist friend, "He is so large a man to hunt such little things."

He was indeed a large man, and I rather doubted him when he said there was plenty of room in his tent for two. Perhaps there was before the rest of it was filled with butterflies.

"We are afraid you are going to leave a very bad impression among the lepidoptera of Perene," the entomologist was told by his hosts when he announced his approaching departure.

"But it is nothing to what the Pichis butterflies are going to think of me," he answered hopefully. "At least if they have time to think at all."

After dinner when darkness had fallen we went into the sitting-room and switching out the lights sat down to see some examples of our host's cinema work. While the projector was being prepared, I looked out through the gauze screen across the moonlit orange orchard and the valley to where the sharp ridge of the hill cut black across the sky. The moon herself had just sailed over the hill but kept going behind wisps of cloud. While I was at Perene there was always a good deal of cloud at night and in the morning and evening. Towards noon the sun came out for a few hours and beat down fiercely in a clear sky.

The only sound from outside the house came from the bats, which screamed like demons. They would circle round the house and then swoop up across the moon and clutch the screen below

the eaves with horrid grating of their claws. Two or three would cling there shrieking and then dart off again into the night. These bats are vampires and really suck blood. They have little chance to attack human beings, but they will single out some unfortunate mule or horse and by attacks on successive nights bleed him to death. The horses, I found, were not stabled behind gauze, but when the bats were at their worst a light was placed near the animals to frighten the vampires away.

I was assured that every window in the house was screened, and also that the larger bats were not dangerous. Only the smaller ones are bloodsuckers, and these have jaws specially adapted to their gruesome appetite. The largest and most fearsome-looking bats are, it appears, addicted merely to bananas, and I saw several bunches of this fruit which they had gnawed.

The films when they were thrown on the screen turned out to be views of cotton growing on the irrigated pampas at Cañete. The scenes on the desert before and after irrigation should certainly be taken on standard size films and shown in Europe as an example of what is being done in the New World to alter the face of Nature.

After Cañete we went to Versailles, and saw incidents in the life of Marie Antoinette. Every one present appeared to be familiar with the details of the French Revolution, and could pick out the leading historical figures in the drama by their personal appearance. The séance closed with a general discussion on the causes of the Revolution and I began to wish my reading on the subject had been more profound.

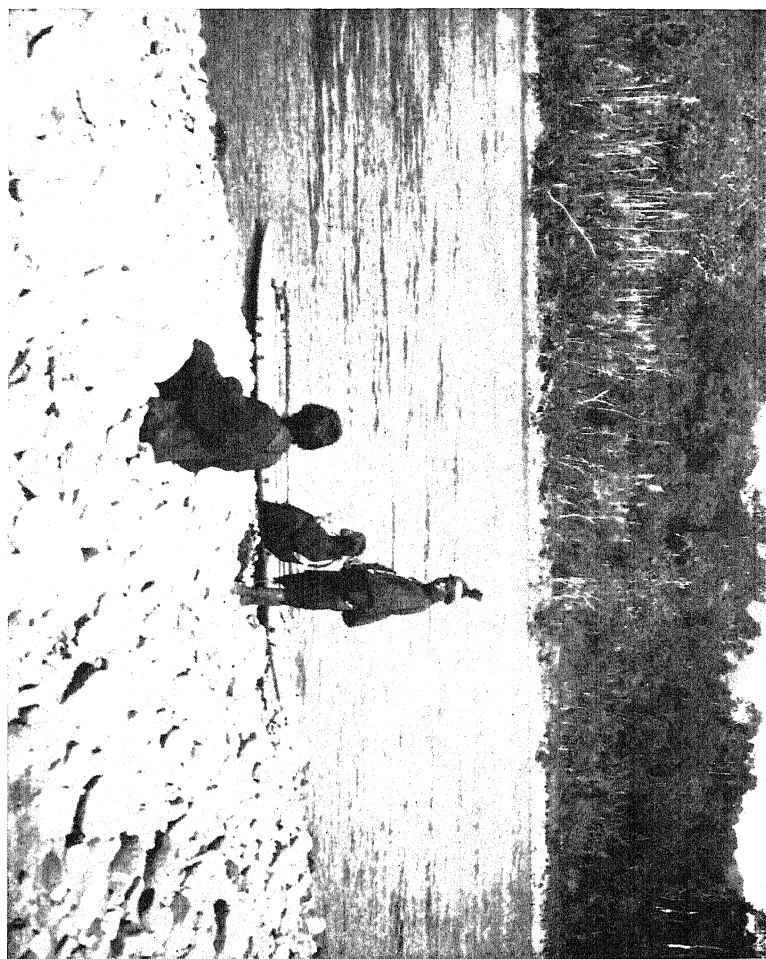
A little later the bookkeeper to the estate was laughing at Americans for calling all music classical that is not jazz.

"Would you believe it," he said, "a classical concert there means Puccini and Massenet!"

PLATE IX.

CHUNCHO INDIANS.

The standing figure and the one in the foreground are men. The other is a woman.



"And where do you draw the line?" I asked. "Would you call Verdi classical?"

Our host looked up quickly. "Verdi is not in the least classical," he said decidedly, "and never used the classical idiom except a little in 'Aïda' and 'Otello.' Classical music is quite different. We have examples of all schools among our records in the next room."

I ventured no more into the discussion. I expected to learn something about coffee growing in the montaña, but historical and musical erudition I had not bargained for.

But as the host said, "Living so far away from the world we must amuse ourselves with something."

Next morning I went to see over the coffee mill where the crop from the outlying plantations is brought in to be peeled and cleaned. When the beans are well soaked they pass through a kind of grater which tears off the outer black husk. The beans pass into tanks and when the second skin is peeled off they are spread in the sun to dry on stone floors. The Perene beans when dry were a light greenish tint, and the director told me this was the colour of the best quality coffee. The crop was turning out better than he expected and he was pleased.

The husks and outer skins are carried off and used as manure in the orchards, but must not be placed too close to the trunk of the tree. The fruit trees round the house were chiefly oranges and lemons. It was too hot for chimoyas and paltas, but under the trees grew sweet potatoes and pineapples.

The estate, like every other in Peru, contains a general store where everything may be purchased from sporting guns to high-heeled shoes. There is nowhere else within reach where the workmen can purchase what they require. We had brought from La Merced a case of pocket knives made in Sheffield, and I was glad to see that these were highly regarded. Some crates

of English country boots had recently arrived, and the store-keeper, one of the director's sons, was astonished at their weight and solidity. There were here sickles from Germany, drugs from the United States and shaving brushes from Japan. Almost every quarter of the world contributed something to this backwoods store, and nearly every manufactured article in it had come half round the globe before crossing the ranges to the far side of the hill.

In the afternoon I rode out with one of the sons to Number Two plantation further down the valley. The track led down a lane past the orchard and garden and between fields, till it rose and began to wind round a cliff edge in the familiar style. The river Perene lay below us on our right, and on it my guide showed me a black streak which he said was an Indian paddling his canoe. On the further shore we could just see the thatched roofs of a Chuncho village, and behind them rose hanging woods to patches of grassy down on the crest of the hills.

I was mounted on a mule, and before we started one of the servants had strapped on to my feet a pair of spurs with rowels about an inch long. When we came to a level stretch of path and my companion set off at a trot ahead of me I quite forgot about the spurs and clapped my heels smartly to the mule's sides.

Mountain, river and wooded precipice quivered before me in a blur as the mule bounded in the air. I wondered where she was coming down, but she landed on the path and set off at a gallop after my guide's fast-trotting horse.

The path along the cliff edge gave us wide views up and down the valley and showed us the tops of the tallest trees rising from the general level of the woods. Some were white-blossomed ceiba trees, but the largest and most handsome were the higuerons. These have white trunks and branches bare of

foliage except at the tips. The leaves are dark green and broad like a magnolia leaf. We passed one giant of this species whose branches spread outwards in a fan-shaped pattern from the head of the enormous trunk. The play of light on these white branches and the views of distant hills seen between them, framed by the overhanging leaves on the outer twigs, made a picture which I tried to record every time I passed; but storm clouds or other tricks of light always balked me. No flowers are visible on the higueron because they are freakish enough to blossom inside the seed case.

We passed many strings of mules and donkeys coming in with bags of coffee, and soon entered the plantations. The coffee bushes are grown under tall trees without timber value. Their purpose is to shield the coffee from the too powerful rays of the sun.

A rocky path led down to the house on Number Two plantation. Here, while my guide was telephoning back to Perene about some coffee bags, I made friends with the trumpeter who was wandering about the yard. The trumpeter is a bird something like a very large moorhen, but belongs to quite another family. This one stood about two feet high and was all black except for a white patch on his back. His peculiarity is to trumpet like a very hoarse turtle-dove or a very throaty hen at whatever he dislikes. The trumpeter appeared to distrust us, and rumbled and grunted till I thought he would turn into a pig, like a famous baby.

Among the other pets at the farm were a speckled young woodpecker with the promise of black and gold plumage, some blue tanagers—bright sky blue all over—and the inevitable monkeys. Every house in the montaña has pet monkeys, and rather miserable objects they look.

As we rode home I saw some blue tanagers in the trees and

many chihuacoos which whistled shrilly as they flew. Blue morphos rose at the side of the path and flapped into our faces. I noticed that there were three kinds of these butterflies, one a pale greenish-blue all over, the second pale blue with a black edge to the wing, and the third a most beautiful deep blue of so intense a tint that one can only compare it to an electric spark.

Among the flowers which I saw growing on the cliffs was a kind of blue foxglove for which I could get no more specific name than "digital." It had a strong scent like the smell of caraway seeds. Under the trees scarlet cannas were abundant, and another plant like a canna with a white iris-like flower. Among the trees I noticed one with pink flowers something like an apple tree. This was the achiote, from the seeds of which the Chuncho Indians obtain the red juice to dye their clothes and also their faces.

In the evening the entomologist invited me to see his collection. He was camping on the ground floor, and the room was almost full of tents, camp cookers and the rest of his outfit for his journey. His boxes of specimens hung in rows from a line across the room, and he was busy placing his latest catch into triangular paper holders, each accompanied by a few grains of camphor.

"I hope those dumb Customs men at New York won't want to open these folders," he said, "for the bodies will be so brittle by that time that the least touch will break them. That is the only real place of danger between my net and the case."

He showed me specimens of the three kinds of morphos, all decapitated, with the wings and head separated from the body.

"That is to prevent the grease of the body from oozing into the wings and spoiling them," he explained. "As it is the grease will be absorbed by the paper and the body can be stuck on again when the specimen is mounted."

He told me of a fourth species of morphos, bluish-green in colour with black edges to the wings and a red underside. These seemed to be rather rare, as although I was always looking out I did not see any in Chanchamayo.

Among the other specimens were many kinds of *papilios* and *ercenedæ*. These last were small but had a brilliance of sheen which was almost dazzling even by the light of the lamp. They were of many colours which changed as one moved the specimen under the light. I would have given something to have seen one of these butterflies alive and resting with open wings in the sunlight. Others when held gingerly up to the light between pincers were seen to have transparent wings; the specimen which took my fancy most was an *urania leilus*, a creature with vivid splashes of green toned down, especially on the underside, by delicate greys and whites, for which the entomologist seemed also to have a special affection. Perhaps it attracted because of the rarity of this softer colouring among the rioting reds and golds of the other species. If sparrows were as brilliant as birds of paradise I suppose we should consider a solitary seagull the most beautiful of birds.

Seeing my admiration for *urania leilus* the entomologist wrote its name on the folder and handed it to me. And now as I write in mid-Atlantic I wonder what those dumb Customs men at Plymouth are going to do with my one specimen of a butterfly from the upper waters of the Amazon.

CHAPTER IX

CHUNCHO INDIANS

THE country all round Perene is inhabited by Chunchos, who remain almost as primitive as in the days when Gonzalo Pizarro and his men came down from Quito into the Amazon Valley to find El Dorado, and found instead starvation and the poisoned darts of the savages. The Chunchos of the Chanchamayo valley are now friendly, thanks to the good treatment they have received. Some of them work in the coffee plantations, and all know the value of money, for many use shot guns for hunting and buy cartridges at the store. Here also they supplement their poor store of food and perhaps buy coca leaves, for the Serrano habit of chewing these leaves has spread to some extent among the Chunchos.

Money can even overcome the proudest Chuncho's dislike of the camera, and apparently he dislikes it very much. But whether this is due to fear or to a desire to raise the value of his portrait I could never make out. The men are usually quite civil when spoken to, and near the plantations have a few words of Spanish, but there is a look in their eye which should warn a stranger not to tread on their bare toes. They remain as free and as wild as the deer upon the hills, and speak to a white man as if they felt themselves his equal. To trifle with the Chunchos, and especially with their women, turns them at once into creatures as dangerous as the jaguar in the forest. I heard of one entire family—husband, wife and two small children—who were murdered, because the husband had angered them in this way.

During the first day or two that I was at Perene the Chunchos seemed to elude me, and though I was always prowling about with my camera I never saw them. Once on the road to the bridge, a man and a woman came round a rock, but when they saw me waiting there with a camera they stopped dead and refused to come nearer till I put the camera down. Both wore the red-brown robe which is universal to the tribe, and the man had a kind of straw hat without a crown and with the brim at the top, so that it projected from his head like a sort of halo. Two bright feathers standing up at the front of this headgear gave the man an appearance of greater height than he really had. Over one shoulder and across his chest he wore a rope of black and white seeds strung into a pattern. His face was painted red in spots and stars.

The woman was also painted, but wore nothing over her bobbed black hair. Round her neck she carried a string of birdskins—golden orioles, blue tanagers, green parakeets and other brightly coloured species.

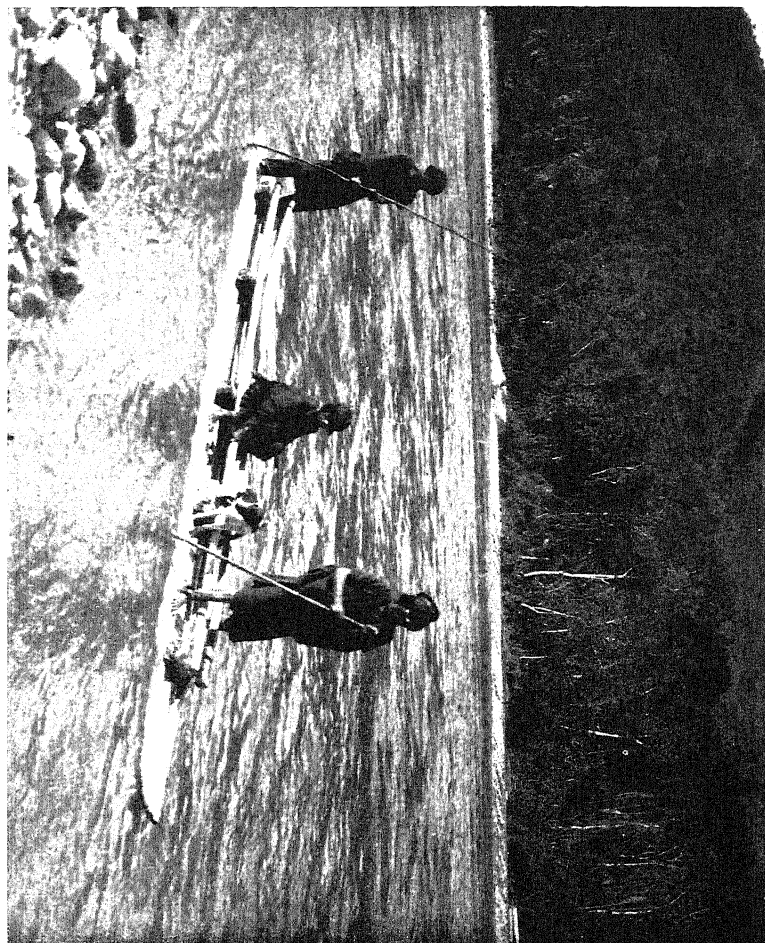
I asked the man whether I might photograph him and his wife, but he refused, and after stopping for a moment they went down the road. Of course I had my camera out in an instant to take at least their retreating figures. The man evidently expected this for he looked round as I took the picture, but said nothing and walked on. Perhaps he knew that a hurried aim usually means a miss, as it did in this case.

Sometimes I went down to the river bank hoping to meet some Chunchos who would ferry me over on their balsas to their encampment on the other shore. A balsa was usually lying on the shingle at the water's edge, and once when I met three Indians in the woods above and they asked me if they could cross the river, I took them down to this balsa, thinking that they would take me with them. But the owner, like a wise water-

PLATE X.

BALSA RAFT.

Three Chunchos with a terrier on the Perene River. The seated man has a gun across his knees.



man, had hidden his paddle, and we all sat at a loss on the bank.

The balsa was made exactly like the ones on the coast at Payta except that it was frailer and could step no mast. The logs were bound to a cross piece and two lighter logs were laid on top of this crosspiece from one end of the craft to the other like a primitive upper deck. Bundles could be put on these logs to keep dry, for, of course, the water flowed over the others.

Another day I saw two Indians launch a balsa on the opposite shore and begin to push it upstream towards the rapids, one paddling and one punting. I shouted to them to come over for me, and after going some way above they struck out into midstream and shot across and down towards me.

I explained what I wanted by gesticulation, but they said they had work to do upstream and could not wait. They allowed me to take some pictures of them, however, demanding payment for each one. Then with a white terrier for passenger they worked up the river again and crossed back to the other side. I wondered how they were going to take the rapids, but when they came to them they slipped overboard and dragged the balsa through to the smooth water beyond.

The next day was Sunday and many Serrano Indians came in to Perene to buy goods at the store. These people come down from the hills to work in the plantations. A kind of market was opened outside the store under the bread-fruit trees, where stalls were set up for the sale of drinks, sweets, fruits and plates of meat. The owners of the stalls rigged up cotton awnings over their heads and began to do a good day's trade as the workpeople drifted in from their distant homes in the outlying plantations.

I went down to the river bank again and found this time some logs smouldering on the shingle. Evidently some Chunchos had camped there the previous night, but I could see no

sign of them or their canoes. I walked some way along the bank over the stones and through the patches of scrub which grew between the flood courses at the side. Suddenly a grey and white bird rose from under my feet and flitted away on silent wings. I thought for a moment it was an owl, but as it flew the flicking motion of its wing strokes showed it to be a nightjar. It soon settled on the shingle and I came up close to it before it rose again. Its plumage was delicately pencilled in black, grey and white, the general tone being a good deal lighter than the English nightjar. The upper side of the primary feathers showed patches of white as the bird flew, and there was also white on the tail. A boldly marked black streak extended over the eye. I put it down at the time as an Amazonian nightjar, but now find that that bird lacks the black streak.

Every time the bird rose I followed to where I saw it drop among the bushes, but at last it led me to a higher bank and flew out from it over the river to where a whirlpool eddied between the crannies of tall cliffs. The nightjar flew along the face of the cliffs and round a crag out of sight.

I walked back to the beach, and as I came down on to it I saw a number of chihuacoos flying over the tree-tops screaming. While I watched, an arrow shot into the air and sailed harmlessly down to the beach, where it stuck quivering in a patch of sand. An Indian came out of the woods to pick it up and I walked towards him. I said I wanted to go across the river, and he agreed to take me when they had finished hunting. Another Indian came out of the woods with a knife, and we all went along the bank, the man with the bow and arrows going ahead.

Sport was very poor and at the end of an hour, with our bag nil, we returned to the river and boarded the balsa. One of the Indians stood at the head of the craft with a bamboo pole and the other paddled at the stern. I sat on the upper logs amid-

ships. We pushed off from the bank and with paddle and punt pole worked against the stream till we reached the rapids; then the Indians let the current take them, steering the raft towards the opposite shore as we swept downstream. In a few minutes we were drifting into the more sluggish water close to the bank and with a stroke of the paddle the Indian behind me drove the balsa ashore.

He led the way up to his huts which stood in a clearing near the bank—the same huts I had seen from the cliff path when on mule-back. The structure was of the type usually made by man in the primitive state, whether he is a savage or a camp cook. Stakes were driven into the ground and across them other stakes were lashed so as to form the support for a sloping roof. The thatch itself was made of bamboo and the sides were left open. It is curious to reflect that this same method of building when translated from wood into stone by the early Greeks finally gave us the Parthenon.

One of the huts was used as a sleeping chamber and had a raised platform of bamboos in it to serve as a bed. A bowl of yuccas stood on the bed and the Indian explained that this was his chief food. The other man sat on the edge of the bed and dipping a small stick into a little gourd he carried, began to suck some white powder off it. I had never seen this done before, but recollected reading that the Indians under the Incas used to use lime to sweeten the coca when they chewed it. They still do so to-day and these Chuncho Indians living in the foothills of the Andes have caught the habit.

In another hut were the Indian's wives and children. The children came forward to be introduced without much difficulty, but the wives refused to leave the shadow of the hut until assured of centavos. They wore no birdskins but many

strings of coloured seeds. Outside the hut a pile of coca leaves was drying in the sun.

The Indian had soon shown me the whole wealth of his estate, and after taking leave of his family I stepped on to the balsa and recrossed the river. I left him and the other man to continue their hunting along the river bank and went up through the woods and across the fields at the top back to the house, where the Serranos were now sitting in rows in the shade eating their midday meal.

In the afternoon I rode out again along the path to Number Two and further down the river to Number Three. I was given a horse this time, which enabled me to trot with more ease.

My guide, the director's elder son, told me I had a good horse, and then added casually: "I should hold him in fairly tight if I were you because he had an illness a few months ago and it has left him rather weak in the knees."

It falls to most people's lot to go over a horse's head at some time or other, but one hopes to do so when there is something to fall on. In Peru one can hardly hope for turf or tan, but even a rock is better than nothing, when "nothing" means a void of several hundred feet. I therefore obeyed my guide and held my mount in tight.

We passed Number Two and went down a steep and stony path where my saddle began to work forward and we had to stop to tighten the girths. I cannot imagine why any saddle in Peru is made without a crupper and a collar, for it is for ever slipping either forwards or backwards on these steep trails. Most of the saddles are the Spanish or Moorish kind with a high peak and a leather toe cap for the foot instead of a stirrup iron. The English type of saddle is, however, used in the towns and by the more stylish horsemen in the country districts.

The steep descent led us to the bank of the river and across

the bed of a stream to a jungle of palms, some of them the fan-shaped kind which throw up a great semi-circle of leaves and have a tufted plume like pampas grass or sugar cane. Presently we began to climb a track through woods where great ferns grew and creepers hung from the branches bearing bunches of red banana-shaped flowers. Scores of blue morphos flitted about here in the patches of sunlight, and as we went higher and began to wind along a rocky ledge I saw a small white begonia with a yellow centre growing among the maiden-hair fern on the cliffside. A little further along were clusters of tubular red flowers.

The path rose still higher along the cliff face, but in the crevices of the rocks, both above and below, trees grew thickly, so that we were in shadow most of the way. At one place a gap in the forest below us showed the river winding through wooded reaches, with slender trees bending outwards over the water and the hillsides rising in planes of sunshine and shadow, one behind another, till their outlines were lost in the grey distance.

I wanted to dismount and seize this view, or as much of it as I could, while the light was good, but my companion said it was better not to halt at that place, for if the horses became restive on such a narrow path they might back over the edge. So we went on and down into a forest vaster than I had seen before. Huge mossy trunks rose upwards in a dim light to where the branches intertwined in a thick canopy overhead. Creepers with fruit like lemons hung from the trees, but no flowers or birds were to be seen.

On the other side of this forest were coffee plantations and a clearing, in which stood the headquarters of Number Three plantation. This was a long white house standing on the edge of a ravine, with a coffee-drying ground by its side.

The pets at this house included two toucans of different species. I had been on the look out for these birds ever since entering the montaña, but was never fortunate enough to see one wild, although these two species are, I believe, fairly common. One is black with a red patch on the back and a yellow bill; the other is smaller and green in colour. In the house were several green parrots from the interior.

One of the men working at the farm gave us two scarab beetles which he had found. They were about two inches long and were iridescent, changing from red to green. We took them home in a screw of newspaper and gave them to the entomologist; but it appeared he cared only for butterflies and moths.

From Number Three we went down the ravine and through cotton fields, said to be self-sown, to a collection of Indian huts called Pampa Silva. A number of pigs rushed out grunting but we saw no people there. Riding past the huts we pushed our way between the cotton bushes till we came to an enormous tree. My guide showed it to me as a specimen of the timber lower down the valley. He called it "Mala leche" (bad milk), and said the tree exuded a poisonous milky sap. The trunk was white, but the leaves were too high up to be clearly seen.

Further on from here the forest grew dense again and the path was so overgrown and broken with tree roots and fallen trunks that we had to lead the horses. In the clearings tree ferns grew and some ceiba trees had scattered a carpet of pink blossom on the ground. I imagine that if there were transport, the timber wealth of this region, practically limitless in extent, would be very great, and that in the clearings coffee and other crops could be grown. The coffee plantations in this district are at present mere points without length or breadth in the im-

mense area awaiting development. They could not stand the cost of transport far away from a road.

Further down towards the greater tributaries of the Amazon is the wild rubber country, and it will probably not be many years before cultivated rubber is grown here on a large scale.

I asked my companion if the chinchona grew anywhere near, and he laughed and said the tree under which I was riding was a chinchona. This is the tree from which Peruvian bark, the raw material of quinine, is obtained. It was first introduced to Europe by the Countess of Chinchon, the wife of a Viceroy of Peru, in the seventeenth century, although its curative effects in cases of malaria had been long known to the Indians. About the middle of last century chinchona saplings were transported from Peru and Ecuador by Dutchmen to the Dutch East Indies, and by Sir Clements Markham to British India. The trees flourished, especially in the Dutch colonies, and the East Indies are now the chief source of the world's supply of quinine, though this supply appears hardly large enough for the world campaign against malaria. Meanwhile the wild chinchona tree grows in profusion in its native home in Peru waiting to be used to combat a disease nowhere more severe than under its own shadow.

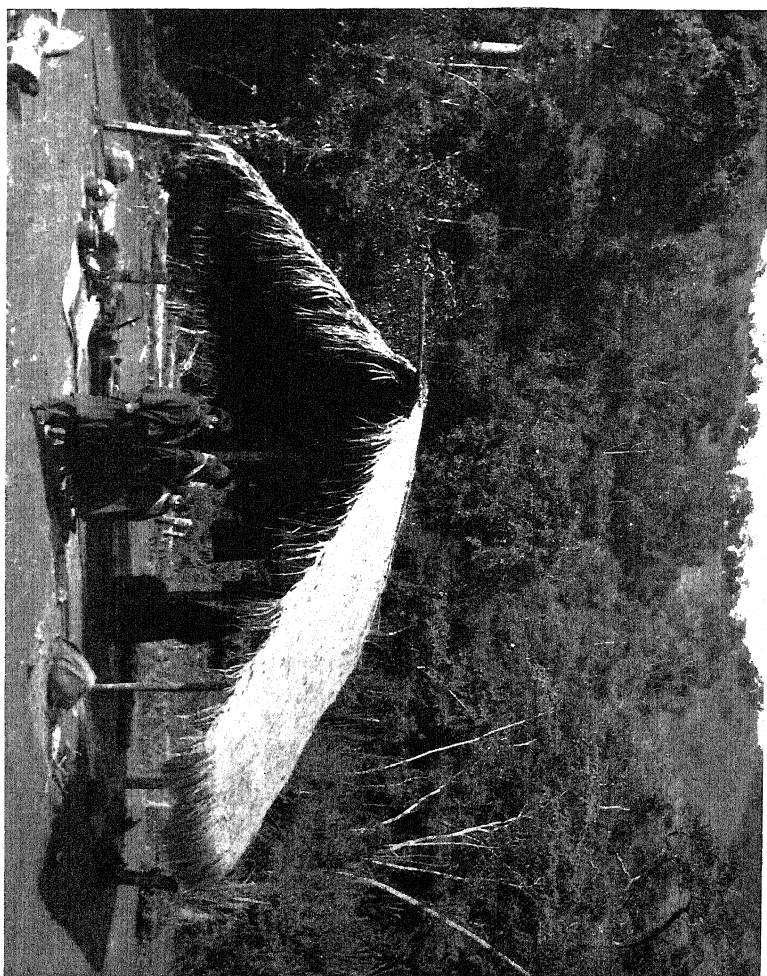
Preventive measures against fever are hampered in the montaña by the presence of a primitive population, all potential carriers of disease; but a plentiful supply of quinine would go a long way towards checking the ravages of malaria, besides forming an exportable article of commerce.

We were talking about the possibilities of quinine manufacture on the way home, when as we were rounding a bend in the path my horse stumbled violently, and for a second I found myself looking down over tree-tops into the river bed. I threw myself back, the horse picked himself up, and we trotted on

PLATE XI.

CHUNCHO DWELLING.

The owner with his wife and daughter.



along the path after my companion, who went on talking about chinchona.

When we reached home the bookkeeper gave us a short lecture on the way quinine is prepared from the bark, and afterwards branched off into a general discussion on chemistry. As on other occasions he had shown detailed knowledge of book-binding, the British Constitution and the ingredients of *bouille-abaisse*, I began to suspect him of being a retired journalist, but he confessed at last that he had subscribed to the twelfth edition of the Encyclopædia Britannica and kept it by his bedside in his hut. His acquaintance with *bouille-abaisse* was, however, based on a better authority still, namely direct observation, for his childhood had been spent on the Riviera.

CHAPTER X

BACK TO THE SIERRA

I NEVER left any place with more regret than I left Perene on my return to La Merced. Clouds of morphos flew beside the car to the Rio Colorado, but there they thinned away, and the entomologist and the director's sons stayed behind with them. I was tempted then to jump out and tell the entomologist I had changed my mind and would share his tent along the Pichis trail; but the hills summoned me back.

The next day I was sorrier still to rise out of the tropical verdure on the Tarma road and come in the early afternoon to the arums and eucalyptus of that rather bleak spot, although the light was golden on the corn and the hills were several shades of red.

A company of variety artists kept the crowded hotel lively all night long and several times I was wakened by voices in high dispute. No shots or shrieks followed, but the adjectives used sounded unsuitable for the public stage and I hardly think the actors were rehearsing. None were to be seen at dawn when I came down for coffee, but that was hardly surprising. At seven o'clock my car was at the door and we started, well muffled up, for the trip over the Eastern Cordillera to Oroya.

The driver was the one who had driven me the previous day from La Merced. He spoke good English, having worked at Cerro de Pasco with the Americans, and took rather a jaundiced view of things. With the good money at the mines he had saved enough to buy two cars and hoped to make good business as a carrier between Oroya and La Merced. But he found his

cars wore out on that gruelling road faster than they brought in money to replace them, and, as he said, "Why should I risk my life every day on these passes without getting anything for it?"

He had begun to dislike the people along the road. We had an Indian passenger who kept us waiting while he took farewell of his relations.

"All these Indian fellows got too many friends," said the driver. "They go round saying, 'Good-bye, mother, good-bye, children, good-bye, monkeys' so it takes them two hours before they are through with it."

Hardly had we issued from the town when a horrid grating took place under our feet and the car refused to go into third speed. The driver stopped, took out the floor boards and announced that the clutch had broken. This meant that the car was out of action for the day and that the freight would lose the down train at Oroya. The driver ruefully said he would transfer me to another car, and did so, insisting that the driver of it should give me the front seat. I left him up to his elbows in grease, and mounting the other car was soon climbing the hairpin bends towards the top of the pass. Barley plots filled the hollows and sunny slopes almost to the top, but we left them behind at last and came out on to the grassy level of the divide. Snow-covered peaks stretched away north and south as far as one could see, shining in the early morning sun, but ahead in the valley of Oroya a haze half hid the hills beyond.

As we dropped down the haze became thicker, until it turned to stinging fumes which made our eyes smart. The car set us down at the station at Oroya coughing and choking, but the wind was blowing the fumes from the smelter up the valley, and the town itself was fairly clear.

I watched the train for Lima steam out and then took one

in the opposite direction for Huancayo. This line follows down the valley of the Oroya River, at first very rugged and bare without any attempt at cultivation. The strata of the cliffs are in some places twisted into fantastic whorls, and at others the side streams have deposited their carbonates as they ooze over the rocky banks of the main river and have left rows of stalactites. Hot mineral springs in this region are resorted to by some people, but it would surely need a serious malady and the certainty of rapid cure to induce a stay in this gloomy gorge.

Some way beyond the springs the river, when flowing in some past epoch at a higher level, filled the valley bottom with alluvial deposit, and now that it has shrunk into a narrower and deeper channel, fields are left in which barley, potatoes and yuccas are grown. Many bands of Indians were pulling potatoes as we passed, and the lower slopes of the hills began to be dotted with villages. At Llocllapampa the scenery changes and red sandstone cliffs line the valley sides, worn into many small ravines and chines by the action of water. The railway crosses the river, now called the Mantaro, and issues suddenly from the gorge on to the great plain of Jauja.

The town of Jauja, or Xauxa (pronounced in the Spanish style "Hauha") lies at the northern end of this plain, which extends on both banks of the Mantaro east and west for several miles and southwards beyond Huancayo. On its level fertile floor, bathed in constant sunshine, good crops of wheat and maize are grown, and on the glorious first of June when I crossed it the reapers were busy and pack donkeys were carrying the sheaves into the villages. Almost a year before to the day I had crossed the vale of Eleusis and seen corn being cut in exactly the same way. The reason that corn harvest in the Andes falls at the same date as in Greece is the peculiarity of the rainfall, which, as I have already explained, turns winter

into summer in the sierras. Under the Incas the month of May was called "Aymuray," the "month of harvest and hoeing."

The valley of Jauja is ringed round by the peaks of the Central and Eastern Cordilleras, and in the south-east is a line of great snow crests. The appearance of this fertile and well-watered plain in the midst of the mountains seems to have delighted the first Spaniards who saw it, and some of the first colonists settled in it. It was here that Hernando Pizarro found the Inca general, Challcuchima, and carried him off to his imprisoned master, Atahualpa, at Cajamarca. Here later Francisco Pizarro halted on his march to Cuzco, and his chaplain, Valverde, tore down the heathen images and founded the churches which now rise above the white buildings of Jauja and are seen from far across the plain.

The spot is one of the driest in Peru and is resorted to by sufferers from lung trouble. The train backs across the plain to the station, and then pulls out again and goes south down the left bank on the Mantaro through the cornfields to Huancayo.

This town, the terminus of the Central Railway, lies in the midst of the plain, surrounded by avenues of eucalyptus and banks of golden broom. It has no buildings of historic interest but is a flourishing market town. On Sundays thousands of Serrano Indians come in and squat in rows in the square, displaying their wares. All wear the blue, green or red capes and petticoats and the white panama hats which are the rule in the central sierras. When I was at Huancayo the *alcalde* was an energetic Canadian, who was planning to transfer the market place to a new site in order to convert the old one into a children's playground. A much-needed road was being laid to the Cañete Valley on the coast.

A narrow-gauge railway was under construction by the Public Works Department from Huancayo to Huancavelica

and I travelled in it to the end of the plain and then down the gorge of the Mantaro to La Mejorada, the terminus of a new motor road to Ayacucho. The section of the line between Huancayo and La Mejorada was a difficult engineering problem owing to the soft character of the valley sides. Several variants of the original track have had to be laid, and though the line still skirts the edges of precipices in many places it is believed to be now secure against landslides.

At La Mejorada I was royally entertained by the railway engineering staff at their quarters behind the station, overlooking the gorge. When the trucks came in from Ayacucho in the evening the engineers arranged for me to be carried by one of them on the following day on their return journey.

We were due to leave La Mejorada at 8 A.M. and started punctually at 9.15. The front seat of a truck was the only place available, as another English party had annexed the only touring car on the road. The front of a truck is, however, not a bad post from which to see a new country, especially in Peru where no touring car travels without its hood up, day or night.

We travelled down the valley of the Mantaro in a narrow gorge with the river foaming over rocks in a deep bed below. The sides of the valley rose steeply on each side, but here and there patches of level bank some distance above the water made possible the cultivation of wheat or maize. Here were haciendas standing in apple orchards, and pastures where a few cattle were grazing. For the most part, however, the valley sides were barren, growing only scrub and broom and, lower down, cactuses.

At places the gorge narrowed to a precipitous defile where the road wound along narrow ledges in the style now familiar to us. From the rocks above turtle-doves flew out in flocks. They were of various species, some being no bigger than larks.

At one place about forty green lories flew out chuckling, and crossing the river settled in the trees on the other side.

After three hours we reached the village of Anco, a collection of huts built of mud and bamboo. Here we lunched at a post house, the walls of which were nothing more than fagots of broom boughs. Good food and drink were available and in a corner a telephone constantly tinkled. We learnt that the touring car containing the *gringos* had started from Ayacucho and passed a certain point; down-going drivers were warned to proceed with extreme caution. The road, like the one from Tarma to La Merced, is for one-way traffic only, but the English people had a permit to go against the stream.

The thumping of a drum and the discordant notes of brass instruments gave to our meal the flavour of a banquet in a modern West-End restaurant. The feast of Corpus Christi was being kept with music and dancing by the local Indians. That is to say, three or four men in dirty ponchos were playing, and two elderly men and a woman were trotting about to the music. A few other women and a couple of pigs watched the performance.

Directly we appeared one of the men came up and offered us a glass of "chicha," a yellow drink made of maize. This may be considered the national drink of Peru. It was made in the time of the Incas, and it is recorded that at the first interview between Hernando Pizarro and the Inca Atahualpa, at Cajamarca, the Spaniards were refreshed with chicha in golden goblets of extraordinary size. It was served on that occasion, so we are told, "by the dark-eyed beauties of the harem," and may have been grateful to the palates of the thirsty Spaniards.

When the man offered me a glass, I thought that if chicha tasted as badly as it smelt it must be a very horrid beverage, and excused myself from taking it. Most of those present, however, appeared to have no doubt of its excellence.

PLATE XII.

CHUNCHO CHILDREN.

The little girl is wearing a number of strings of berries. The smaller child is a boy.



After a few more fox-trots the whole party went off up the street, headed by a man carrying a sugar cane.

For another hour we followed the gorge of the Mantaro, expecting to meet the touring car at a very awkward turn of the road. At a particularly dangerous place where there was a cutting through the cliff, a man was sent forward to see if the way was clear. At length as we were crossing a wider part, the bonnet of the touring car suddenly appeared ahead. We passed without mishap and the driver with a sigh of relief began to make up for lost time.

Soon we came to the village of Mayoc and issued from the gorge into a wide valley broken up by hills. We crossed the river on a rigid iron suspension bridge and leaving the Mantaro wound over sandy hills to another river, where we had to unload the lorry in order to cross an extremely primitive bridge. The roadway, made of boards, was simply laid on a number of steel cables stretched from side to side of the river. The usual practice is to suspend the roadway from the cables.

It was here extremely hot and cotton bushes were growing by the river bank. We rose over hills, on which nothing grew but the perpendicular species of cactus, towards distant trees. In the valley below us was the light green of sugar cane, and on the far side were dark green foothills, rising in hundreds of little peaks towards the main chain of the Cordilleras. On every western slope the afternoon sun was shining, throwing into relief the tumbled masses of the hills.

The trees ahead of us concealed the small town of Huanta lying in a little oasis of orchard among the burning hills. Beyond Huanta are more cactuses, but presently the road begins to dip down into a green valley. For some miles more it winds along by the side of a river, sometimes passing over patches of grass and sometimes through orange and lemon groves. Here

also are tall trees with dark leaves bearing a green fruit like an orange. This I was told was "lukuma" highly to be recommended when ripe. Another tree with rather similar dark leaves grows a kind of long bean containing black seeds embedded in a white downy substance. This down is juicy and good to eat. It is called "pacay."

It was dark before we began to climb towards Ayacucho. The town lies at a height of about 7,000 feet on a layer of volcanic tufa. The road up from the river winds along the side of a deep chasm in the usual style, and loses nothing from darkness and the mysterious flashing of the head lamps across the void on to the rocks on the other side.

Suddenly on rounding a cliff one sees the lights of the town ahead, and after giving one's name to the police authorities, is allowed to enter.

Ayacucho, lying buried in the sierras, still has the character of a Spanish town of the old colonial days. Its arched doorways, wooden balconies and heavily barred windows belong to an age of art rather than mechanics, and it gives one something of a shock when the lorry, arriving at the big square, drives without ceremony under one of the porticoes which surround it and enters the courtyard of a galleried inn.

Modern Peru is very far away as one mounts the stone staircase to the upper story of the inn. The roof of the gallery is supported on rounded stone arches springing from the capitals of slender columns. Open doorways show glimpses of vast darkened rooms, in one of which a fire is burning. This is the kitchen where the hostess of the inn, an Indian, is busy cooking the dinner for the guests.

In reply to a request for a room the hostess despatches one of her helpers to show the guest his lodging. It proves to be a hall as big as a church with a brick floor and bare walls, contain-

ing at the far end an iron bed and two chairs. The room is lit by a candle, but the lamp in the gallery shines through the barred windows and casts a pattern of light on the floor. These windows are cut through walls about four feet thick. The bars forming the grilles are of carved wood and inside them are shutters, once polished. The windows (in which there is no glass) overlook the gallery and courtyard; the outer walls are blank.

The dining-room of the hotel is entered from the gallery and overlooks the main square of the town from a wooden balcony above the porticoes. The whole square is surrounded by porticoed buildings, and it is curious to notice how far the modern builder falls short of his forerunner in sense of form. It was decided some years ago to rebuild the town hall in the same style as the other buildings in the square. The contractor took the 18th century rounded arches as his model but widened them to suit his building plan and set them upon squared concrete pillars without capitals. The result is a caricature of the original, and the effect is not improved by the fine old doorway which was discovered somewhere and set up in the middle of the façade.

Ayacucho should be seen at night when darkness hides the squalor too noticeable in daytime. In the clear sky of the sierras the stars flash with unusual brilliancy, and their light discloses carved portals and jutting balconies and casts faint shadows on the white walls. At every few yards one comes to a church—there are in Ayacucho some thirty of them, all with bells. But these bells, according to an excellent regulation which might be imitated in Europe, are silent between the hours of nine and four, that is to say during the hours when honest folk sleep. At half-past four the bells begin to call the people of Ayacucho to renewed toil.

Since the coming of the motor road, the bells have had a

rival in the motor trucks, for before dawn they begin to leave with fiendish noise on their hundred-mile journey to La Mejorada.

The coming of the road has not brought unmixed prosperity to Ayacucho, for the well-to-do people have taken advantage of it to emigrate in a body to Lima. Freight costs by road prohibit the export of native produce in bulk. Heavy tolls are levied for the upkeep of the highway, and its mountainous character makes the repair costs of trucks a serious item. The district, like all others I have visited in Peru, is said by local enthusiasts to be extremely rich in minerals, and I heard tales of hillsides from which gold may be scraped by the bucketful and mountains which are more or less solid blocks of lead and silver. I was shown small fragments of these mountains and any one who likes may go and look at the mountains themselves.

By daylight Ayacucho is best seen from the top of one of the neighbouring hills. A kind friend came round to the hotel shortly after dawn with a couple of horses in order to show me this view. We clattered through the town over the cobble stones, and passing a bridge began to scramble up enormous blocks of tufa, among which cactuses were growing. From the top of the hill we saw Ayacucho spread out below us, white in the early morning sun, with the towers and cupolas of its churches rising above the red roofs. Away in the east we could see a white snow peak shining among the brown summits of the Cordilleras. The only thing the view lacked was trees, for unfortunately the tufa subsoil of Ayacucho does not permit trees to flourish.

There is a pleasing custom among the women of Ayacucho of wearing their woollen shawls (the manto) folded on the head like a large three-cornered hat, when not in use over the shoul-

ders. These large head-dresses, usually bright red or blue, give a picturesque appearance to the wearers, and are a pleasant change from the more usual panama or felt hat. I was told that this custom of wearing the manto on the head is dying out.

Sir Clements Markham, who visited Ayacucho about the middle of the last century, says that the young ladies of the town are remarkable for their beauty, intelligence and kindness of disposition. Unfortunately the brevity of my stay prevented me from finding out whether this tribute is as well deserved to-day, though I am sure it is.

The original inhabitants of this district were a tribe called Pocras who resisted the invasion of the Incas and were finally defeated in the battle of Yahuarpampa by Inca Viracocha. It is said that the Inca when serving out rations of llama flesh to his troops gave a portion to a falcon soaring overhead saying, "Huamanca" ("Take it, falcon!") The name became that of the district and the modern town was founded with the name of Huamanca (or Guamanga) by Pizarro in 1539. The name was changed to Ayacucho after the battle in 1824, which secured the independence of Peru.

Huamanca was intended by Pizarro to serve as a stronghold midway between Cuzco and his new capital at Lima. He offered land in the neighbourhood, with Indian vassals, to soldiers and their wives who settled in the city, and he caused it to be built so solidly that Cieza de Leon says Huamanca contains the finest houses in Peru.

"Here are the largest and best houses in Peru," he says, "all built of stone, brick and tile with great towers, so that there is no lack of good lodging. The site is on level ground of large extent."

The first great battle in this neighbourhood took place in September 1542 between young Almagro, the head of the Chile

faction, and the Governor, Vaca de Castro. Almagro had caused the assassination of Pizarro in revenge for the execution of his father and was in rebellion against the Crown. The battle was fought on the plains of Chupas, below the city and resulted in the complete defeat of Almagro. He fled to Cuzco but was arrested and executed, together with many of his followers.

On the way back to La Mejorada we visited the town of Huanta. It was market day and the large square before the church was half filled with Indian women squatting under the shade of umbrella-like shelters made of cotton on reeds. They were selling a great variety of fruits, vegetables, meats, pastries and other goods, and the bright colours of their shawls and skirts made brilliant patterns of colour in the midday sun.

We were delayed twice further on by a car breaking down ahead on the narrow part of the road where it was impossible to pass.

CHAPTER XI

RAIL-HEAD AND BEYOND

AT the time of my visit the new railway to Huancavelica was only open as far as Acoria. The line leaves the valley of the Mantaro at La Mejorada and begins to climb the narrow defile of the Huancavelica River, passing through many tunnels, skirting precipices and crossing frequent bridges.

I reached Acoria after dark and stumbled down a steep slope out of the station towards the village. It was higher and cooler than at La Mejorada and we seemed to be at the end of the world as well as at the end of the railway. I saw some strange forms silhouetted against the sky above me and took them to be cactuses, but they were the necks and heads of a flock of llamas herded near the station. They had brought down copper ore from the mines of Castro Virreyna and would carry up cement for use in railway construction.

The hotel at Acoria was part of a general store, in which dry goods, hardware, vegetables and provisions were sold. In front of the counter of the store were only two tables and when they were occupied one waited in the street for the diners to finish. Nevertheless the meal was quite tolerable for those who like Peruvian dishes. It consisted of several courses, the first being an excellent broth, the second a stew with rice and the third or fourth a beefsteak. At a similar hostelry in England one would be lucky to obtain cold mutton, cheese and pickles—fare which would not satisfy the meanest Peruvian traveller. Every meal of any pretension in Peru ends with tea or coffee; an English-

speaking companion, a contractor on the railway, advised me to take tea, as at this altitude coffee is apt to affect the heart. I found this advice good, and followed it as long as I stayed in the high sierras.

At the other table the engine-driver, the conductor and some other men were talking of Indian superstitions, and one said in case of disease, an Indian doctor would rub a patient with a flower and then throw it down in a place where people pass. The first person who walks over or near the flower is held to carry the disease away with him. The essence of the cure seems to be that the doctor should tell the patient that the disease has been carried away by this other person.

The bedrooms at Acoria were not up to the level of the supper, but though the paper was peeling from the mud walls and the room was miserable in appearance, there were no vermin, as there would have been in such a room in any part of Europe known to me.

The room was on the ground floor, for there was no other, and when I entered it a furious noise was going on outside. Evidently a dog fight was in progress and I opened the window to see it. Two huge beasts were tearing at one another's throats and several Indian women were trying to pull them apart. Growls, yelps, shouts and many strange animal noises filled the air and the room rapidly filled with dust. I closed the shutters, for there is no glass in the windows of these mud houses, and gradually peace returned to the farmyard outside. The dogs were heard no more, but among the noises which continued I thought I detected the quacking of ducks and "cheeping" of young chickens.

At dawn next morning when I rose there was just light enough to see that the "cheeping" proceeded from a monkey chained in the doorway. Some green parakeets had also added

an accompaniment, but I was pleased to see there really were ducks. A composite odour assailed the nostrils and I lost no time in swallowing breakfast and going up to the station.

The line was laid for some miles beyond Acoria and I was told to wait there for an engineer's trolley which would pass through from La Mejorada. It was due at 7 o'clock and I was there waiting for it in the chilly dawn with my collar turned up about my ears. I was waiting when the sun rose, bringing light and colour into the valley, and I was still waiting when in growing heat I laid my overcoat aside and unbuttoned my jacket.

Meanwhile the llamas were being loaded. Cement was emptied from barrels into sacks, each sack containing a weight of about 50 lbs. The method of loading llamas is to tie them together by the neck, two by two. The llama's neck is long and easily encircled by a cord. Bound to another animal, he is helpless and must submit while the load is placed on his back and strapped on with black and white cords made of alpaca wool. However tight these are drawn they do not cut or rub the llama's hide. When the load is in place the animals' necks are loosened and they are free to run about again if they choose. Many and fierce were the struggles before all the llamas were secured and the cement strapped on their backs. Then they all went off through the village and up the path to the mountains.

At last about 10 o'clock I saw the trolley approaching along the line. Four large, well-proportioned engineers were seated on it and were being propelled by a force at the moment invisible. When they arrived at the station this force was seen to be that known in nautical circles as "Armstrong's patent," namely, the muscular energy of four Indian workmen who walked behind the trolley and pushed.

Having charged the trolley with a number of cases of beer

and several sacks of vegetables, the engineers invited me to seat myself beside them on one of the cases. I did so and the trolley moved forward, though at a somewhat slower pace than before. The road is all up-hill from La Mejorada to Huancavelica.

We had not gone a hundred yards from the station when without any warning an engine shot round a bend and down the track toward us. The trolley was clear of all the engineers save one in the twinkling of an eye. The one who remained produced a red flag, and when the engine stopped some fifty yards away, remarked that railway accidents were caused by panic.

When the engine had passed we went on up the narrow valley of the Huancavelica, first through fields of wheat, and afterwards, as we rose higher, through barley. The valley was steep-sided and the track wound along round the ledges, so that it was never visible for more than a hundred yards ahead. As we heard that another engine was at work further up, one of the younger engineers ran forward with the red flag to give warning of our approach.

We found the engine and a train of wagons at work on the track. The wagons were being loaded with earth from a cutting by a party of Indians, many of whom were wearing white woollen sleeves over their jackets, decorated with Fairisle patterns (or designs very much like them) in brown on black. These sleeves reach to the wrist and are connected over the shoulders. The jacket worn in these parts is short, reaching only to the hips, and white woollen leggings are sometimes drawn over the trouser leg. This is an old European custom, now confined, I believe, to Montenegro and Dalmatia.

Under his white felt hat the man often wears a kind of Phrygian cap with ear flaps to protect him from the cold.

RAIL-HEAD AND BEYOND

When these are woven from white wool it makes the man look as if he were wearing a judge's wig. So clothed the Serrano Indian is a picturesque figure, particularly when he slings round his neck a scarlet handkerchief containing his coca leaves.

The men had almost completed the loading of the wagons on our arrival and were taking their seats upon the heaped-up earth. Our Indians tied the trolley to the engine with pieces of wire from a packing case, and we took our places in the cab of the locomotive while it pushed the wagons and pulled our trolley a few kilometres up the line to a steep embankment where the earth was to be pitched.

Leaving the men busily shovelling the earth over the sides of the embankment we went on to the rail-head, walking part of the way to give our men a rest. The rail stopped at a bridge, and near by was a farmhouse where the contractor had his headquarters. Here we were all entertained in the bountiful Peruvian style and shortly afterwards left on horseback for Huan-cavelica.

My guide was a young engineer who had suddenly appeared on a handsome horse, announcing that he had been sent to conduct me to another railway camp in the mountains. He wore a broad panama hat, and spurs with rowels like starfish jingled on his feet; a large camera was slung over his shoulder. We set off at a good pace over the hills and soon found ourselves on the track of the railway. It was finished except for the rails and made a good road, but at many places there had been landslides which had carried away the whole track, destroying the work of months. These slides occur where the line has to cross stretches of scree, fallen from the hills above as the result of erosion by ice and rain. These unstable banks of loose soil and stones make the work of railway-laying in these parts very arduous, especially as during the first three months of the

PLATE XIII.

APPROACHING RAPIDS.

The view from a balsa in midstream as seen by a passenger. The man in the bows is punting with a bamboo pole.



year cloudbursts are common and huge cataracts sweep suddenly down from the hills carrying everything away with them.

We soon came to one of these places as we were riding along the track. I could see no way out, as we were in a cutting with a wall on each side and ahead a mass of fallen rock and earth. I saw my young guide dig his spurs into his horse and grab its mane. He shot up the wall ahead, perched twelve feet above me and disappeared from view. I followed his lead and found my horse nothing loath. We clambered down over the rocks on the other side of the slide and went on, sometimes along the track and sometimes over the hillside.

Several bridges were being built, usually by Croatian masons, and we passed through two or three tunnels. I followed my guide blindly in the dark, but we had not gone far through the first tunnel before a fearful crash ahead announced that his horse had stumbled in a hole. The sound of flying stones continued for some seconds and then he shouted back that he was all right. I followed more gingerly expecting my horse to put his foot into the same hole at every step. He managed to avoid the spot, but the man behind me fell into it and I heard him swearing as he pulled his horse out.

In another tunnel we came to a place where it had only been excavated half way down to the level of the track; we had to climb up over the debris on to the higher level in the darkness and go on nearly touching the roof.

Once we left the track for a couple of miles and rode across a grassy valley where cattle and llamas were feeding. Here there were bushes of yellow calceolaria and blue lupin and several kinds of yellow asteraceous flowers. I also saw for the first time a scarlet flower like a clarkia. Rolling grassy hills and crags surrounded us on all sides, and on the hills were patches of barley and potatoes reaching in some places to the summits.

At length as we came over a rise in the dusk we saw in the valley below a farmhouse surrounded by trees, with an old stone bridge to the right of it across the stream. A light was already lit in the farmyard and we rode down to it. The buildings were surrounded by stone walls and, stooping low, we rode under a covered gateway into the courtyard of the house. Before the house was a broad verandah and on the rail of the verandah were a dozen or more saddles. On the left-hand side of the courtyard was a chapel with two turrets and a statue over the door, and on the other sides were stables and dwelling rooms. The buildings were without an upper story.

Before I had time to dismount the engineer in charge of the station was at my side offering me a cordial welcome, and on entering the house I was received with the boundless hospitality to which I had become accustomed in Peru. Eight blankets were held to the minimum necessary for me at this altitude and another was tacked over the windows to keep out the morning light.

CHAPTER XII

THE MINES OF SANTA BARBARA

BREAKFAST was served next morning on the verandah, although the air was distinctly cool. The horses of the engineers were turned loose in the courtyard below, and above the wall on the far side I saw the tops of trees and distant mountains.

The trees I was told were called "quinuar." The name is a corruption of a Quechua word, for the tree appears to be local to these altitudes. In the wild state it is gnarled and twisted, but I was told that the trees round the house were a cultivated variety and were for that reason straighter growing. The wood is hard, and is used for mine props and roofing. The leaf of the quinar tree is small and dark green in colour; the flowers consist of a small head of pinkish blooms, in form something like privet.

The camp lay about a league from Huancavelica and after breakfast we rode along the railway track to the town. We came to several more landslides, and in one cutting we had to ride out through a narrow opening, cut to allow storm water to escape, on to an almost precipitous slope, and then up and down llama tracks among the rocks, where projecting crags were apt to catch one's head or knee unawares.

As we went on we gradually rose nearly to the summits of the hills. The valley broadened, and the Huancavelica River, now shrunk to a small stream, rippled through it between grassy banks. After reaching the head of this valley and rounding a spur of the hills we entered another larger valley and saw

in the middle of it the town of Huancavelica lying on both sides of the river. The mountain summits are here much higher and the town lying on the plain is encircled by great crags rising many thousands of feet above it.

A military celebration in honour of Arica was in progress on our arrival and we had to stand in a side street to let a long procession pass. It contained soldiers, volunteers and boy scouts with several bands. When all had gone by we went on into the square in front of the Cathedral. The square was in some disorder, but was being laid out in gardens in readiness for the arrival of the railway in a couple of months' time. I was told that the square was to be renamed after President Leguia.

The Prefect was walking up and down looking at the work and I was introduced to him. He proved to be a merry individual inclined to treat the town and himself as rather a joke. He told me the trouble with Huancavelica was that there was too little want. With barley, potatoes and livestock on the hills, the people, he said, had all that they required, and if one did not want to work he had only to go to a friend's house about lunch time. There is enough and to spare for all and consequently little incentive to produce more.

Huancavelica certainly has the appearance of a town where no one does anything but sleep. This may have been due to the celebrations on the day of my visit, but I was told there were practically no shops and there was nothing to be bought—except saddles, for which Huancavelica possesses the best craftsmen in Peru. The town has been dead since the closing of the quicksilver mines of Santa Barbara after the War of Independence. Formerly these mines supplied the silver workings of Peru with the quicksilver necessary in those days for the extraction of the metal from the ore. In fact, the whole world looked to the mines of Santa Barbara for quicksilver. But when the

Spaniards were expelled from Peru they destroyed the mines and the vein has never been rediscovered. During the last ten years people have been endeavouring to find the lode, but so far without success.

My guide, one of the young engineers, was not quite sure of the track up to the mines and when we asked the way at a friend's house, the man told us to ride through his garden and up some stone steps at the back onto the hillside. We soon found the track, leading up in zigzags towards the workings. Huancavelica rapidly unfolded itself below us in a pattern of white walls and brown roofs; but as we went further up, the white walls disappeared and we saw only roofs.

After climbing for about 1,000 feet we came to the modern workings. A horizontal gallery has been cut into the mountain-side and men were bringing out trolley loads of rock. The rock is split by compressed air machines driven from an electric power station on the hill above. The current is generated by water at the streamside near the town.

We found several pieces of rock veined with quicksilver ore, oxidised red, but were told by the men in charge that hitherto nothing had been found to repay the cost of the undertaking. In the power house, situated on a level plot of ground further up the hillside, we found dynamos humming and a large building filled with heavy machinery. How it had been carried up to this perch on the precipice edge remains a mystery to me. The noise of the dynamos so startled one of the horses—as well it might in this place—that he shied and nearly pitched his rider over into the abyss.

We were directed still further up to the old Spanish workings. From this point the horses began to suffer from *soroche*. Their breath came in gasps and one could feel their hearts knocking against their ribs. We stopped every few yards to

relieve them; but the further we went up the further away seemed the workings of which we were in search. We came to some huts and a church, but found nobody there; and went on scrambling over bare rocks till we reached a place where the horses could go no further. We tethered them to a big stone on a little patch of grass with a precipice on one side and the rock-face on the other. We then climbed on foot some way further until we reached a kind of pass and saw down over valleys ahead. Still there was no sign of the workings. My guide went back to the huts and there discovered an old Indian woman whom he induced to return with him to show us the way. This was along the edge of the mountain and over a brow. Then we saw spread out below us many openings into the old Spanish shafts. It is possible to enter some of them, but for the most part rocks have fallen down and blocked the passages. Near the entrance to some of the workings were the ruins of houses and an arch which must have formed part of a church. A local priest afterwards told me that the galleries extended for miles and contained a chapel and what he called a *Plaza de Toros*—meaning I suppose, a kind of central square. In those days the Indians were driven underground to work the mines, and kept there until their period of service was ended, or death intervened.

The spot where we were must have been about 14,000 feet high. A dwarf lemon-coloured calceolaria was growing here among rocks, but there were few other flowers. I saw some grey birds, the size of redwings, with a prominent white stripe over the eye. Here for the first time, too, I identified the sierra woodpecker, called locally "pito." It is grey-green in colour with speckled wings and has a pale yellow patch over the tail, so that it looks something like our green woodpecker as it flies

away laughing. It is found commonly at these heights far from trees.

The old Indian woman, who had guided us very unwillingly, now loudly demanded payment. After satisfying her we went back to the horses and with some difficulty persuaded them to come down from their rocky perch to the more open ground below. About midday we reached a farmhouse by the streamside near the town, used by the railway engineers as their headquarters for this section of the line. The windows of the living-room overlooked the torrent and I saw again the white-headed dippers flitting about over the rocks. Another little bird perched in the branches of a quinquar tree by the waterside and sang a song like that of our English wren.

After we had been entertained with an enormous luncheon we mounted our horses again and rode down into the town. On the way we passed an old man weaving a poncho at an open door. He told us it would take him six days to complete it. The poncho is woven half width and the two halves are afterwards sewn together with a space for the head to pass through.

The most interesting church in Huancavelica is the one at the old Franciscan convent, now used as a school. It contains some altar pieces finely carved of native cedar and some good statues made in Spain. A plain but pleasing cloister adjoins the church and off this are the classrooms. Most of the roofing is thatch, the material employed under the Incas even for their most gorgeous palaces and temples. The rafters also followed the Inca style in being bound in place with cords of maguey.

The Cathedral in the main square of the town is chiefly remarkable for a façade in stone so red that it appears as if coloured.

On the other side of the river on a level field some distance

PLATE XIV.

BOW AND ARROW.

The men have painted faces and are wearing a straw headgear. The one who is shooting is adorned with a rope of black and white berries passing over his right shoulder.



above it are warm springs where an open-air bath has been constructed. At the time of our visit, however, a hailstorm was raging and we were not tempted to take a swim.

The rejoicings were still going on in the afternoon and as we left the town on the way back to the camp bands of Indians were dancing on the greens to the music of native pipes. Some men who stood looking on carried the silver-bound staffs, which are the insignia of office of the *alcalde*.

The next morning I left the camp on what I was told would be an easy three and a half hours' ride to railhead. We crossed the old stone bridge near the farm and then climbed a thousand feet or more, leaving the Huancavelica River behind us. On the ridge ahead were jagged rocks looking like a castellated fort. When we reached them we found short, sweet turf growing, as on the South Downs at home. We met many llamas carrying firewood and also a couple of mules laden with mailbags. The hills were tilled for barley and potatoes, and the man who was acting as my guide said the highest parts were thickly populated. The people remain unseen in the hilltops until the rain sends them down to find shelter in the valleys.

On top of the divide we crossed a grassy plateau where flocks of plovers, called "licli" were flying about screaming. These birds are something like a hen lapwing, being grey on wings and head and lighter on the neck. When they fly they show two white diagonal lines on the wings. They cry something like English green plover and Peruvian sportsmen hold them a great nuisance as they alarm the other game. Some birds—I suppose the cocks—have a habit of raising themselves as it were on tiptoe holding the body vertically like a pouter pigeon.

From the top we had splendid views all round and looking backwards saw the snow-covered peak of Rasuilka towards Castro Virreyna. After we had crossed the plateau the going

became bad again as we went down over rocks to a stream-bed. We let the horses drink, having to take the bridles off before they would touch the water. Peruvian horses and mules demand water about every hour and however much one is pressed for time one must stop and unbridle one's mount. I learnt that we had three leagues to go and three hours to do them in over a bad road.

The three hours were none too many, for the track led up over one hill after another and down again to valleys where the ground was swampy and we had to pick our way carefully. Most of the way was over rocks or large stones and only on the hilltops could we travel at anything faster than a walking pace. The only birds I saw here were buzzards and a large black hawk with a white, black-barred tail. From its black and white plumage this hawk is called locally "Dominican." It is common in the higher altitudes. Many flocks of llamas and alpacas were grazing on the plateaux and as we went down into a valley I heard the unexpected sound of sheep bleating.

Here it was warmer and on climbing another rocky path we found ourselves on the edge of a precipitous ravine down which a torrent rushed to join the Huancavelica River. Calceolarias and coreopsis were blooming on the banks and cactuses showed that the climate was more temperate than on the plateau.

We began to go down into the gorge by a kind of staircase of rocks. My guide trusted his horse and his saddle and rode down without dismounting. I followed him, although the drop from one rock to another was sometimes two or three feet and there was little room between the wall of cliff on the left and the sheer fall into the river bed on the right. From its depths I could hear the torrent rushing over the rocks. Fortunately my horse waited to stumble till he was on a broader and more level piece of road. He picked himself up and we went on

over another crest and out on to the edge of the main valley of the Huancavelica River. The hillside dropped a couple of thousand feet below us and rose again on the farside to mountain tops in the distance. The valley sides were yellow with patches of barley wherever there was a foothold for plough-oxen.

A narrow path wound down the valley side towards the river bed, and down this we rode with 30 minutes to spare and a long descent to make. The river glistened below like a ribbon of magnesium and I thought it would be impossible to reach the station in time. However we dropped down from barley to wheat and from fresh to warm air. The river broadened below us and presently we could see the rocks in its bed and the new railway lines running along by its side. Then the village of Acoria came in sight as we rounded a spur of the hills and as we neared it we saw the train waiting in the station.

While still, as it seemed, very far below us the engine whistled. We saw the white puff of steam and after some seconds heard the sound. Still we went down and at last reached the railway track, crossed it and galloped through the village street and up the bank to the station with three minutes to spare.

CHAPTER XIII

THE SOUTHERN COAST

FROM Ayacucho to Cuzco is about 150 miles as the crow flies but the journey overland takes nine full days. One must follow the bridle tracks over high passes and down into valleys, experiencing alternately great cold and great heat, and finding very little food on the way. Some men who have made this trip recently are enthusiastic about it; others declare that nothing would induce them to repeat it. The bleak tablelands and parched ravines between the Cordilleras lack for me the charm of the montaña, and I decided to travel to Cuzco by the easiest route and thence to find my way along the mule trails back into the forest.

The train carries one down from railhead in the Huancavelica Valley to Lima in two days, with a night at Huancayo. From Lima one takes ship to Mollendo, 500 miles down the coast; and from Mollendo the Southern Railway of Peru carries one another 500 miles or more over the desolate Andes to Cuzco.

Lima, I found, had changed from autumn to winter in my absence and the sun had hidden his face. A fine mizzle—half rain, half mist—fell at intervals, and the air, though mild, was sodden with moisture. Every one aches with rheumatic pains in Lima in winter—that is from June to September—and the wisest are those who have a perch at Chosica, 3,000 feet up, where the sun always shines.

The passengers on the liner which took me to Mollendo were complaining of the mist and damp when I went on board.

Fresh from the tropics, they resented the grey skies and cool air, and were not at all cheered to learn that it would now become colder and mistier for the rest of the voyage.

As a matter of fact the next day, when we were running down the coast, was gloriously fine and we were now sufficiently far south to seek the sunny side of the deck.

I met an Englishman on board who had been staying with his wife at a hacienda in the north of Peru some 8,000 feet up in the mountains. He told me that the conditions of life there were almost incredibly different from anything he had ever encountered. In order to reach the house they had to cross a bridge made of a few insecure logs. They gave their baby to an Indian to carry across and watched his progress with something like horror. The husband and wife crossed sitting astride the logs and working themselves forward by their hands. They could not hear each other speak owing to the roaring of the torrent below.

In the hacienda, though some of the usual comforts of life were lacking, others were superabundant. Scores of people dined at the board every day, some of them servants, but others quite unknown to the owner. Milk, meat and potatoes had no more value than air and water, and when my friend said he would like a nearer view of the condors which were flying about, his host calmly ordered a pig to be killed to attract the birds. Cattle were ploughing on such steep slopes that one of them sometimes fell over the edge and was killed; but the loss of an animal was considered of hardly any account, unless it was a pack mule carrying valuable cargo.

On the evening of my friend's arrival, his wife was asked whether she would care for some goat's milk for her baby. She agreed, and a few minutes later she saw hundreds of goats being driven towards the farmyard. They surged into the corral

in an increasing stream, and when the whole place was swarming with them the lady was asked to pick out one which might have the honour of supplying milk to her infant.

The farm hands were Indians who worked for nothing but their food, and possibly a small plot of land. Labour being had gratis, said my friend, works of improvement could be carried out which would be quite beyond the pocket of an English farmer. A hill-top, for instance, was levelled for ploughing during his visit by a couple of hundred men working for a few hours.

The coast from Callao to Mollendo shows from the sea as a line of high bare hills without sign of vegetation or dwelling. The ship as a rule stands too far out for the fertile river valleys of Chilca and Mala to be seen. These were the valleys I had crossed on my way to Cañete and Cerro Azul. We did not touch at this little port on our way south, but ran into the roadstead of Pisco. Several groups of islands lie off the shore here, the most northerly being the Chincha group. Steaming past these we approached Balleista Island, feeling our way cautiously to the anchorage. The water shoals here rapidly in patches and the captain was not satisfied till he had reached a spot known to him as good holding ground. Twenty times he asked the officer on the upper bridge the bearings of a hill-top and the pierhead, before he gave the order "Let go!"

The anchor ran out and we swung to it, while the launches and lighters came alongside from the pier two miles away.

The port of Pisco is called La Playa. It is a small place of few, if any, attractions. A tramway connects it with Pisco, about a mile inland. Pisco is the terminus of a railway which goes inland about 60 miles to Ica, the centre of a great cotton-growing district on the bank of the river Ica. It is proposed to

carry the new line from Huancayo to Huancavelica onwards through Castro Virreyna down to Ica, and so to the sea at Pisco. This will have the effect of making Pisco the port for the mineral wealth of Castro Virreyna, as yet hardly touched owing to the lack of transport. The chief export from Pisco at present is cotton, which goes direct to Liverpool.

The town has given its name to the spirit distilled from maize which is drunk in all the country districts of Peru, except where *aguardiente* (sugar cane spirit) is produced.

As we left Pisco we passed close to Balleista Islet and saw the curious natural arch at its northern end with a glimpse of open sea through it. The coast south of Pisco winds round a wide shallow bay used by fishing craft, with a village called Pescadores at its head, and then sweeps north again to form the high rocky Peninsula of Paracas. The southward entrance to Pisco roadstead lies between Paracas and the island of St. Gallan; the channel is rather narrow owing to sand banks off Paracas. The headland and the island look as if they should protect Pisco from the south, but as a matter of fact they do not, for a strong southerly wind known as the Paraca often rises suddenly about noon and blows till sunset, knocking up a heavy swell in the roadstead. As at Cerro Azul loading from the lighters is often interrupted by this swell.

On the side of the cliff at Paracas is a curious white design. The captain, who called our attention to it, first described it as being like the end of a church and then like a candelabra. There are three upright lines, the central one being the tallest. Each is crowned by a triangular design and another white line, cut horizontally across the hill, connects their bases. What the design represents is rather obscure, but it is popularly supposed to be the site of an Inca burial place.

We passed out between St. Gallan and the cliffs of Paracas and saw beyond a bold indented coastline with bluffs, islets and coves, half in sun and half in shadow. Clouds drifted over the lower slopes of the Andes behind the sea cliffs, and beams of sun struck down between them on other clouds below, making spots of misty light which changed as the clouds drifted overhead, masking the true outline of the hills.

Many birds followed the ship all day. Among them was a gull with black wings, grey head and white tail. Cape pigeons also appeared. These are petrels shaped almost like a duck, with a dark brown head and speckled black-and-white body. When they fly they show black wing-tips.

We anchored off Mollendo at dawn next day, and when I came on deck I saw what looked like a wintry scene. Low cliffs, apparently dusted with snow, fringed the shore, and on them was a cluster of wooden shacks forming the town of Mollendo. Behind rose barren brown hills whose tops were lost in mist. Against the base of the cliffs surf was breaking, and I saw that although the sea looked smooth, the rowboats coming out to us from shore were rising and falling to a heavy swell.

The long Pacific rollers crash upon the shore at Mollendo most days of the year and make landing there an experience to be remembered. The launch which takes one to the harbour is carried forward in great surges by the following seas, and the moored lighters dance wildly up and down. The birds perched upon them, however, remain standing on one leg as impassive as the steersman of the launch.

Rounding the end of a mole, above which the surf is breaking, one expects to reach smooth water; but the little harbour, really nothing but a ditch between two walls, is open to the north, and the swell follows one in. The launch approaches the bare slippery wall, and as she comes under it a wooden arm-

chair appears suddenly high in air, spinning on the end of a rope. The launch runs under the chair which immediately plops into her cockpit.

"Get in, get in!" shouts the boatman, and a passenger obediently seats himself in the chair.

"More of you! Jump on!" urges the boatman, now showing strong excitement. The launch is heaving up and down within a yard of the wall and only skilful handling prevents her from being dashed against it.

Two more passengers seat themselves on the arms of the chair, another man stands on the back and in a second the chair is jerked up ten feet above the water and swung over on to the quay. Sometimes another man will catch hold of the bottom of the chair as it is hoisted and swing by the hands underneath till he can drop off on to the quay. When the chair has only one occupant it swings about violently, and I saw one startled Englishman bumped against the quay wall and then swung out over the water before being landed safely among his friends.

The first impression of Mollendo from the sea, hardly does it justice. It is not all built of wood. There are some three-storied buildings and a square with flower beds in it, full of sweet scented daturas in various colours. Some people confess to waiting for a steamer at Mollendo with pleasure, even for several days. They are usually travellers from the sierras who are glad to bask in the warmth without demanding any other distraction. The whiteness of the hills is of course not snow but salt.

The railway line from Mollendo to Arequipa runs south along the sea shore for a dozen miles. Beyond the scrub and sand a wall of foam hides the sea every few seconds, as succeeding rollers crash on the beach. At Mejia the line turns inland up the fertile valley of the Tambo River, but after following it

a short distance begins to climb on to the barren tableland on the north side of the valley. Rapidly leaving the pastures and cotton and sugar fields below, the train arrives at Tambo—a collection of huts on a bare plain, surrounded by a little garden watered from the railway tank. Roses and cannas bloom in this garden, but beyond the reach of the water the land is as bare as the palm of one's hand. Crossing the sandy plain after leaving the station, one can see down for a few moments into the vale of Tambo watered by its river and green with sugar cane, lucerne and cotton as far as the line of white surf on the shore. Then the train twists its way across the desert, not following a valley but winding in and out of several until it reaches the level Pampa de Islay.

The only growing things I saw were cactuses, and the only living creatures, two pairs of condors. It was low to see condors, who usually keep above 12,000 feet, but there was no mistaking the enormous wing-spread and the white collar as the birds swept by the train. The primary flight feathers are greyish and turn up very much at the tips as the bird flies.

Higher up we ran into a cloud-bank, and then after some time rose out of it into brilliant sunshine, leaving the cloud as a dark wall behind us. At La Joya, at an altitude of about 4,000 feet we ran across the level plain on which the famous *medanos*, the crescent-shaped sand dunes, are found. They have no parallel in all the world outside Peru and have been much studied by scientists, but their perfect shape and regular motion has remained a marvel if not exactly a mystery.

The dunes are found on a plain composed of reddish-brown lava sand. The dunes themselves consist of grey sand, lighter and more easily blown by the wind than the red sand on which they stand. The wind in this region blows constantly from the south, there is no rain and consequently no vegetation, and

therefore there is a tendency for this light grey sand to be blown always northwards. The wind striking the hummock of sand blows out at each side of it a horn gradually diminishing in size and curving inwards, so that the dune takes the form of a perfect crescent. Sand is constantly being blown away from its base on to its horns and as this process continues, the dune moves northward at a speed of about 40 to 60 feet per year.

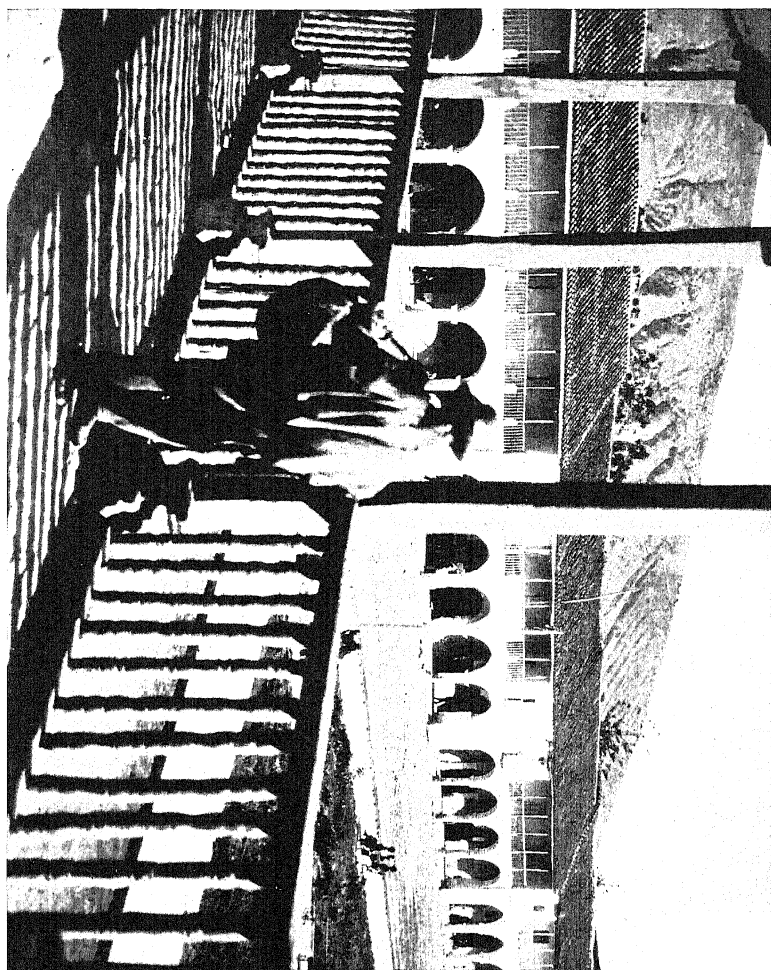
The dunes range in size from 30 to 100 feet across and are from 6 to 15 feet high. Naturally they all face the same way, and very remarkable they look, circle behind circle, all one shade of grey and all perfectly shaped, standing on their red lava-sand carpet. It is difficult to realise that they are all moving, though at a speed which has only taken them five miles on their road since the days of the Incas. The slowness of their motion makes them less of an obstacle to the railway track than might be imagined, but they can be stopped from encroaching on the line by a light covering of stones.

The evening lights in this part of the sierras are enchanting. In the east the red glow on the hills is splashed with patches of grey sand, and other tones due to the various minerals in the rock, and beyond one now sees for the first time El Misti's perfect cone, towering 19,000 feet into the darkening sky and crowned by a white cap of snow. To the south of El Misti are the more jagged and irregular crags of Pichu Pichu, also snow-covered; and far ahead in the north the still greater gleaming mass of Ampato dwarfs the nearer crags of the Western Cordilleras with its 21,000 feet. The effect of these harmonies in red and grey with the snow above them is further enhanced by the blackness of some of the lower and nearer crags and the red-brown sand carpet of the Pampa in the foreground, tinted a richer red by the western sun. And this carpet is itself streaked by the weird curving shapes of the grey medanos.

PLATE XV.

AYACUCHO.

A water carrier on the balcony of the inn, overlooking the great square. The man is wearing a short poncho. He could not understand a word of Spanish.



In the west, on the day I crossed the Pampa, a bank of milk-white cloud shone below the sunset like a sea, hiding the lowlands by the coast. The sky above was clear gold, shading through red to green and violet. This level step in the great wall of the Andes, between the sea and the higher slopes, gives one a sense of the vastness of the range, which one loses when the Pampa is crossed and one begins to climb the next few thousand feet through the tortuous defiles which lead to Arequipa.

Before reaching the city the railway enters the canyon of the Chili River on which Arequipa stands. The line winds along the side of the canyon some way up, and one can see down to the level floor, where irrigation has made a green carpet and crops are harvested in the midst of the barren sierras.

Night falls before the afternoon train reaches Arequipa and for some time one can see nothing but the flashing of the engine's headlamp on the rocks as it winds round the side of the canyon. Then the lights of Arequipa appear ahead, and one is soon driving through its quiet streets to the hotel.

CHAPTER XIV

AREQUIPA TO CUZCO

AREQUIPA, the second city in Peru, lies at an altitude of 7,500 feet and enjoys a climate at once genial and temperate. Though Pizarro is held to have been its founder, Arequipa must have existed as a settlement from much earlier times, for its position midway between the high sierras and the coast makes it the natural focus of trade and a stopping place for travellers passing up and down. Indeed, the old name "Arequipa" is a Quechua word meaning to stop and rest. Here the Indians, carrying wares down from Cuzco or bringing up coastal produce, would perhaps rest their llamas for a day or two, and here in modern times the wool of the sierras is warehoused, cleaned and sold for export. Here too the railway passenger, like the old Indian, stops and rests, strolls in the tropical yet tempered sun, and, if he likes, tries the properties of the famous baths of Yura.

There is probably no other public square in the world with quite the quality of the Plaza of Arequipa. The porticoes which surround it on three sides are carried on granite arches of equal height and width; there is no change of style or intruding building out of line with the rest. On the fourth side stands the Cathedral, built of cream-coloured volcanic tufa. Its clustered columns and half-columns, though following no known architectural order, are yet in harmony with the setting, and if they cut off all but the upper slopes of El Misti they serve to mask meaner buildings behind.

El Misti dominates the Plaza and the whole city. Uncon-

sciously one personifies the mountain as the Indians do. Although now extinct and perhaps no longer the object of direct worship El Misti is still venerated by the people as the seat of supernatural forces which it is well to placate. From the moment one opens one's eyes in the morning and sees him glistening over the roofs across the street El Misti towers over the dweller in Arequipa, giving every view a half ethereal aspect. There is indeed something of magic in the sight of the volcano's huge cone, supported on the one side by Chachani and on the other by Pichu Pichu, as they rise white and splendid beyond the palms and fountain in the Plaza.

Perhaps it is the combination of palms, falling water and the silent snow masses beyond which gives its special charm to the Plaza at Arequipa. At any rate, all visitors confess to feeling its spell, either in the morning when the mountains are seen through a haze with the early sun behind them, or in the evening when the yellow light shines on their flank and gilds the tops of the palms and the Cathedral towers; or still more during the brief twilight when sky, towers, and snow peaks reflect a myriad soft tones fading moment by moment into a common dark. As the stars come out one almost expects naiads to rise out of the fountain and dance among the palms; but the fountain has a solid cement basin—the same shape as the ones in Trafalgar Square—and instead of naiads come electric lights and perhaps a band.

Music of all kinds can be heard in the square, from an Indian's pipe to a gramophone. One day while in the palmshade at noon I was startled to hear from the gramophone shop under the porticoes, a chorus of English voices burst into "Land of Hope and Glory."

The Cathedral occupies the whole north-eastern side of the Plaza. It was built in 1847, and is said to be the work of an

unlettered man who had merely studied architecture as an amateur. The building is not orientated; the wall facing the square is the side of the nave although the two towers rising from it give it the appearance of a western end. The columns rise to a cornice on a level with the flat roof. An arch is said to have risen above the wall till the earthquake of 1879 brought it down. At present two arches, neither supporting nor connecting anything, stand at right angles to the building at either end. To an architect the work probably appears horrible, but to a layman it seems harmonious and fitting to its surroundings. The church is well lit from a kind of clerestory and the walls are whitened. The whole interior strikes one as very clean.

Arequipa is a highly religious town and many women hear mass every day. Mantillas are the rule and no one is seen to enter a church in a hat. La Compania, the old Jesuit church, is the one in which Arequipa takes most pride. It has a fine façade in the rococo style, but secretly I prefer the plain walls and columns of the Cathedral.

The clearness of the air at Arequipa, which makes the colours at sunset so extraordinary, has caused Harvard University to establish an observatory a few miles out of the town. Here the astronomers can work with the assurance of cloudless skies from April to October. From November to March when it is sometimes overcast at Arequipa they go south to another station in Chile. Until recently an observation post was kept on the summit of El Misti and a member of the staff paid a weekly visit to it to keep the records. This entails a day's climb on mule-back, a night at the top and another day to descend.

The streets of Arequipa are clean, but they will be sweeter when the drains have been covered in. Drainage and water-works are in hand and before many years, if funds hold out, Arequipa should be a model city. An interesting proposal is

to utilise some of the water when it is brought down from the hills, to irrigate part of the plain outside the city. At present this is treeless and bare, except in the valley of the Chili River where canals irrigate a narrow belt of *andenes* on the river banks. If the whole plain round Arequipa could be watered, market garden produce could be raised and the city would be within easy reach of a supply of fresh green vegetables—a commodity now at a premium in the sierras.

I was taken some miles across the desert to see the baths of Jesus (stopping on the way to inspect the hospital, a place no visitor to Arequipa is allowed to escape whether he is well or ill). The baths lie at some elevation above the town towards Pichu Pichu. There is a large covered bathing pool with a natural rock floor, out of which bubbles the health-giving spring. These baths are said to be good for rheumatism and many other diseases, and are much resorted to by Arequipeños during the hotter months. A water-bottling plant adjoins the baths.

On the other side of the city on the line to Juliaca are the more famous baths of Yura, which some enthusiasts declare will cure any disease under the sun. I postponed a visit to them till I could put them to the test.

To any one with a fondness for growing things the bare desert which surrounds Arequipa is rather depressing, but the Chili Valley, cutting across the pampas like a green ribbon, forms a contrast which is all the more delightful by reason of the narrowness of the oasis. I was shown a path bordering a small irrigation canal which led up the valley to the north of the town. Between the path and the river were brilliant green fields of lucerne and patches of golden wheat. Willow trees bordered the path and under them scarlet nasturtiums were blooming. Between the trees one caught glimpses over the cornfields of the blue slopes of Chachani crowned by their caps

PLATE XVI.

UNDER THE PORTALES.

Ayacucho women carrying wares on the back in the quepi. The woman on the left has put her folded-up mantle on her head.



of snow. These verdant scenes in the midst of the sterile sierras serve to remind one yet again that a great part of Peru is only waiting for water to be transformed into a garden of Eden.

The way to this path was through a suburb of the city which I was told was the oldest part of the town. There is a fine old carved bridge there across a stream, now fallen into decay. At a cottage near by on our return the friend I was with insisted on asking for chicha after our long walk of about three miles. The chicha was brought to us in glass tumblers of heroic size, holding at least a quart. Chicha is a better drink to taste than to look at and its slightly sour flavour makes it a good thirst quencher. But I have never been able to quaff it by the quart.

The houses of Arequipa are mostly built in colonial style with several ground-floor rooms surrounding a patio. Many of the stone lintels and door posts are handsomely carved, and the walls are tinted brown, red or yellow. The windows are barred with heavy grilles, but most open on to the patio, so that long spaces of bare wall are presented to the street. The long rain-waterspouts which project from the edge of the flat roofs show that the climate is not always so dry as it is during the winter months.

The traveller for Cuzco leaves Arequipa in the early morning, and spends two whole days crossing the Cordilleras. The evening of the first day finds him at Juliaca where he must spend the night, proceeding on the following day over another range to Cuzco.

For some little distance out of Arequipa the train follows the Chili Valley. When I was there in June oxen were drawing wooden ploughs and men were scattering seed broadcast. In other fields water was pouring in from irrigation channels. The first village at which the train stops is built of tufa and looks surprisingly clean. All too soon the line leaves the cultivated

land and proceeds over desert as bare as that between Arequipa and the coast. The track goes north-west from the Chili Valley to Yura and then climbs round the western spurs of Chachani, turns north and finally sets its course north-east for Juliaca. Several sandstone canyons are crossed, and in some of these narrow runnels have been scratched out in the face of the cliffs to conduct water from the rivers to patches of land between the cliff and the river bed. These little plots made green by the water look the more vivid in contrast with the bare brown surroundings.

Beyond the canyons the track runs over broad pampas backed by snow peaks on every hand. Small herds of vicuñas pasture on these pampas. Sometimes they remain fairly close to the line as the train passes, but usually they lope off into the distance, looking like giant hares with their golden-brown colour and long hind legs.

The habit of vicuñas to keep always in small bands is referred to in a fascinating journal kept by the botanist Hipolito Ruiz during his travels through Peru between the years 1777-1788 when he was obtaining material for his great work on Peruvian and Chilian flora. In his "Relacion Historica," now preserved in manuscript at the London Natural History Museum, Ruiz comments on many other things besides the flora, mentioning the animals, birds, fishes and insects he saw and the people he encountered. In his reference to vicuñas he says:

"Vicuñas are very curious animals and are much attracted by bright colours, especially scarlet. One notices their peculiarity of travelling always in troops; these consist of six females and one male, or sometimes four females and one male. As soon as people are seen approaching the male steps apart from the herd and a short distance away stops and observes what has

attracted their attention. If he realises that there is no danger he returns to the herd, which remains stationary. Where, however, he scents danger he gallops quickly off followed by the females, all running up hill or down with equal ease."

The vicuña is much slighter than its larger cousins, the llama and alpaca, and is built more on the lines of an antelope. It is of a uniform colour and its fleece is softer and silkier than either the llama or alpaca. Under the Incas only the Emperor himself might wear vicuña wool, and to-day the sale is prohibited except by special licence. The reason for the modern law is that the vicuña is a wild animal, not domesticated like the others, and cannot be shorn alive. If it were not protected it would soon be shot to extinction. No animals are now allowed to be killed, but fleeces or skins in existence at the passing of the law can be sold under government seal.

The pampas on which the vicuñas pasture is covered by a coarse yellow grass called "ychu" and short scrub (tola) used as fuel. Another form of fuel in this almost treeless land is found in a woody growth like an enormous fungus which grows high up in the hills on bare rock. It is called yareta (*Azorella diapsioides*) and is really a mass of small plants growing together like moss. Sometimes strings of donkeys are seen crossing the pampas to the railway laden with yareta or tola for transport to Arequipa. In some of the valleys between the stretches of pampa are hillsides covered with bushes of a yellow cistus; other slopes are blue with lupins.

Further up one comes back to the valley of the Chili. This is now a stream flowing in a deep rocky canyon. A bridge rising out of the depths of the canyon carries the railway line across it, and the track, leaving the maze of rocks at Sumbay, runs over more pampas to Crucero Alto, the highest point,

14,600 feet above sea level. On the way are seen flocks of alpacas and llamas, but few people or buildings of any kind except the railway stations.

After crossing the divide the track runs down for some miles within sight and afterwards by the shores of two mountain lakes called "Lagunillas." One is a real lake with islands on it, the other a large tarn. They are a clear, deep blue in the sunlight, but unfortunately no trees are reflected in them. It is too high for timber, even in the tropics, and only bare, brown or snow-covered mountain tops are outlined in the water.

White ribbons on the shores are lines of gulls (*Larus seranus*) and many others dot the surface of the lakes. With them are also numbers of coot, cormorants and two kinds of grebe. One of these is dark with a white patch on the cheek, and the other smaller, hardly bigger than our dabchick. It is dark greyish-brown on the top of the head and back, and light silver-grey on the neck and breast. The plumage has the oily sheen of most of the grebes and divers.

I had an opportunity to examine these birds at close quarters on my return journey, as the freight train on which I was travelling was too heavy to be pulled up to Crucero Alto in one piece, and my half was left behind while the engine took up the first portion and then came back for us. Meanwhile I walked down over the tufts of moss and woolly cactus to the water's edge, crunching through the ice-covered pools on the hillside and putting up one or two pipit-like birds.

The lake was still and clear and every tone of the mountain beyond showed clearly in it. The white gulls swimming in the middle were reflected as swans, and near the shore three of the small brown-and-white grebes were turning on their sides and preening their silvery under-feathers. Through the glass I could see every feather and the sparkle of water on a bird's

beak as it raised its head after drinking. I could hear also the flutter of its wings as it shook them out and then tucked them together on its back.

On a windless morning this little lake tucked in a fold of the hills is one of the quietest places in the world. The only sounds come from the birds—the flapping of a coot's wings on the water as it rises or the "swish" of its feet as it planes down again. Every now and then one hears the faint tinkle of cracking ice as the sun warms the pools and the frozen crust splits. This is an agreeable sound, for it means a respite from cold, the great enemy of all living things at this altitude. These hours before noon when the sun is rising are like a daily return of spring in the high Andes, and the birds seem to enjoy the growing warmth as much as we do.

On this lake I saw several "huachuas," the wild goose of the Andes. It is black-and-white, the body being white and the wings black, or rather a dark green which looks black at a distance. Huachuas are safe from sportsmen, as in the wild state their flesh is uneatable. At one station, however, I saw some domesticated birds which I suppose were used for eating.

The woolly cactus which I saw by the lake grows on the high levels above 13,000 feet. It forms low cushions covering several yards of ground and is covered with silky white hairs concealing the spines beneath. These covering hairs are so white that in the distance the plant appears to be covered with snow.

Past the lakes are more pampas where great herds of llamas and alpacas wander, tended usually by some cloaked Indian figure. The train crosses these plains about sunset and soon after dark arrives at Juliaca, where travellers for Cuzco pass the night.

At Juliaca one sees for the first time the wide-brimmed hats,

PLATE XVII.

HUANTA MARKET.

The women are typical Serrano Indians of Central Peru. They are buying frozen potatoes. The capes and skirts are all dyed in bright primary colours.



called "monteras," worn in this part of the sierra. The people are well wrapped up, for the nights, at any rate in June and July, are frosty even here, 3,000 feet lower than Crucero Alto. I saw a company of men going off to work on a new road, all wearing ponchos and mufflers with the woollen skull caps under their hats; yet their legs and feet were bare, a few only having llama-hide sandals. Many of the women also had bare feet, although the knitting of woollen socks is a local art, and these, with sweaters, mufflers, caps and blankets in gay and intricate patterns, may be purchased from the peasant women in the market place before the station. They sit in a row on the ground with their wares in front of them. I noticed one swaying herself from side to side in a peculiar fashion and discovered that she had a baby hidden on her shoulders under her mantle.

Knitted dolls are a great feature of the market at Juliaca, as they are also at Arequipa. These dolls are sold in pairs—a man and a woman. They are supposed to be purse bags and have a hole at the neck in which coins could be dropped. Their principal use, however, seems to be to extract money from visitors, and few strangers pass without buying at least one pair. The man wears a poncho and the woman a manto in the correct style, and the heads of both are crowned by the montera. On the bigger dolls the knitting is ingenious and the patterns elaborate.

At Cuzco, later, I saw similar dolls worked exquisitely in silk by nuns and stuffed so as to form real dolls instead of purse bags. The men are dressed in the long-skirted coat and carry a bag of coca and a sling over their shoulders. The women are usually represented spinning or knitting, sometimes with babies on their backs. Some of the men are playing pipes and some are carrying lambs.

Knitting is a fine art among the Serrano Indians in the wool-

growing districts, and where they have a field to develop patterns, as in the ponchos or the eared caps, they introduce all kinds of motives, among which the llama, birds, and men and women dancing are favourites.

The railway line from Juliaca to Cuzco goes north-west for nearly 100 miles across pampas. As the train leaves Juliaca one can see beyond the pampas to the east the snow peaks on the frontiers of Bolivia. At the first station men come running up from the neighbouring lake with strings of large, spotted, flat-headed fish called "suche." In this lake I saw balsas made of reeds. At the next station are more fish, but smaller, and then the line leaves the lakes and the herons and waterfowl, and crosses plains, on which are flocks of very English-looking sheep. They are, in fact, bred at the Government stock farm at Chuquibambilla largely from English animals and under English management.

At Pucara samples of local pottery are sold by Indian women, who here adorn the sides of their monteras with a kind of little curtain or veil hanging down on each side of the hat for about four inches; it is usually made of red material and is pleated. The top and brim of the hat is often embroidered with gold braid and sometimes looks very smart. Under the hat the women in these high parts usually wear a long black manto covering the head and falling over the shoulders. I was told that the manto was black as a sign of mourning for Atahualpa.

Most of the pottery sold at Pucara is made in primitive fashion and consists of cups, platters and simple utensils; there are, however, well-done figures of bulls, horses, birds and Indians which find a ready sale. The products of a local factory, also on sale on the station, are completely different. They have the fine glaze and the tawdry designs of their European models.

As one approaches the highest point of the line at La Raya the pampa narrows, becoming hemmed in by towering walls of cliff and scree crowned by snowfields and pinnacles of bare rock. The summits of the mountains here are toothed and jagged to a much greater extent than any I saw in Central Peru; the work of erosion and denudation appears to be in its earliest stages. These stupendous crags form the knot of Vilcanota, which by connecting the two main ranges of Cordilleras closes the basin of Titicaca to the north.

At the top of the pass itself is a reedy lake, and when it is full one can actually see the water dividing, part flowing west into Lake Titicaca and part east into the Amazon. Above the lake, between the nearer crags, appears for a few moments as the train passes the rounded summit of Ururana, completely covered with a dazzling snowfield.

Near and at La Raya will be seen on all the big rocks many little stones and pebbles placed by some mysterious agency in the crevices and hollows. I wondered over these till a Peruvian companion explained to me the Indian custom of carrying a stone when following a road for the first time, as a charm against fatigue. The stone is carried to the highest point and there left.

After crossing the divide the line descends rapidly through a narrow valley which soon becomes fertile. On the top only bitter potatoes are grown; these are frozen before being used and are hard and rather tasteless to eat. They form, however, a standby against absolute hunger to the people of the high sierra, and appeared in the soup at the wayside station where the train stopped for lunch.

As the line falls on the Cuzco side of the pass it soon arrives at fields of ordinary potatoes and barley and some distance further down at wheat and maize. It was the season of wheat harvest (June), as I passed, and on all hands were groups of

poncho-clad men winnowing the grain by tossing it in the air in long scoops. Sometimes there were as many as thirty or forty men engaged in this; the chaff seemed to be blowing all over them and I hardly think the method can be a very sound one. The threshing is done by oxen yoked three or four together and driven round and round over the full ears. In one place I saw about twenty oxen, unyoked, being driven over the corn; men stood at intervals round the circle to prevent the animals from running out of it.

As we ran down we came to cactuses, molle trees, eucalyptus and aloes. The shadows of the western peaks were reflected on the eastern slope of the valley, in which the head waters of the Urubamba (or Vilcanota) River flowed in a deep channel. In fading light I saw patches of white, red and yellow in some of the fields near houses, and found these were maize cobs separated into their different colours and set out to dry.

Sicuani, 3,000 feet below La Raya, and the principal town in the valley, was the scene of the capitulation of Tupac Amaru, the descendant of the Incas, after his abortive revolt against the Spaniards in 1782. He was stirred to rebellion by the intolerable cruelties practised on the Indians; his punishment was to be torn to pieces by horses in the great square at Cuzco.

At Tinta, some way further down the valley, are the enormous walls of the Temple of Viracocha (another name for Pachacamac).

The costumes became gayer as we approached Cuzco, ponchos and skull caps being woven in bright patterns. All the men and women wore the large broad-brimmed monteras, but those of some of the men were of felt with a silk cord with pompons at the ends, tied round the crown; and the short jackets and knee breeches also worn recalled pictures of old Spain. In

fact it is but a short step from this costume to that of the toreador. The broad-brimmed hat, worn askew, with the tassel of the skull cap hanging down from under it at the side of the head gives a jaunty and rather operatic air to the most Indian face.

Darkness falls before the train arrives at Cuzco. At Huambutio the line leaves the Urubamba valley and cuts westwards through the hills to the head of the other valley on which Cuzco stands.

CHAPTER XV

THE CAPITAL OF THE INCAS

CUZCO, the capital of the Inca Empire, stands at the northern end of a valley 11,000 feet above sea level. Encircling mountains shut off the plain from the Urubamba Valley to the east and the Apurimac Valley to the west. The foundation of the city is the theme of many myths and legends, of which the most popular is that the two first Incas, Manco Capac and Mama Oello, the Children of the Sun, came from the region of Lake Titicaca to bring light and wisdom to the savage people of the country. They carried with them a golden wedge and were ordered to found a city where the wedge sank into the ground. This it did at the spot where Cuzco now stands, and the place accordingly became the nucleus of the future Inca Empire.

On the hills which rise steeply to the north of the city may still be seen the ruins of Manco Capac's palace; it is built of regular blocks of granite neatly fitted together, and was entered by a doorway whose sides slope inward in the usual style.

Following the growth of the Inca Empire under successive Emperors, the town of Cuzco increased in wealth and magnificence until at the time of the Spanish Conquest its treasures were fabulous. Part of its gold and silver went to amass the ransom for Atahualpa, which failed to save him from a barbarous death; more was stripped from the walls of the palaces by the invaders; and much more, it is supposed, was hidden by the Indians, and remains to this day undiscovered.

The Spaniards were not content with robbing Cuzco of its

gold and silver; they pulled down the palaces and used the stones for their own buildings. Yet sufficient of the lower courses remain to show the marvellous stonemasonry of these early builders. In some cases the stones are squared and are of uniform size; in others the stones are irregular but finished so as to fit into one another like a crazy pavement. One famous block in the narrow street leading to the church of San Blas has twelve angles, but the stones round it fit so closely that a pin cannot be pushed between them. Close to this place in the garden of an antique shop are two walls one over the other, of which the interior one is built of regular stones, and the outer, and therefore later, one of irregular stones. This leads to the belief that the best masons were not the Incas but a pre-existing race. Nothing is known of these earlier people except from the buildings and pottery which they have left, but it is evident that they were in some respects more advanced than the Incas who supplanted them. The pre-Inca ruins at Tiahuanaco, near Lake Titicaca, contain hieroglyphic carvings, whereas the Incas had no knowledge of written or carved symbols and kept records by means of knotted strings called "quipus."

Cuzco to-day is an old Spanish colonial town standing upon Inca foundations; its streets are filled with Indians dressed something like 16th century Spaniards, but speaking Quechua, the old Inca idiom. The worship of the sun, the Inca deity, has completely passed away, and on feast days the many churches are filled with dark-skinned worshippers as devout as the most ardent Dominican missionary could desire. On the ruins of the Temple of the Sun itself stands the Dominican church and convent.

Still, many old customs remain. The Indian on coming over the brow of the hills and seeing the city spread out below, crosses himself and whispers a prayer. This is an adaptation of

the custom under the Incas of greeting Cuzco from afar. It was a sacred place, and the traveller on seeing it for the first time would say "Cuzco, glorious city, I salute thee."

The stones carried by the traveller have here a significance different from that mentioned in the preceding chapter. Indians will still sometimes be seen carrying a stone on the shoulders when entering Cuzco. This is a sign of reverence; no man, even an Inca noble of the highest rank, entered the presence of the Emperor without carrying a burden on his back. The broken walls of Cuzco are all that remain to remind the Indian of the person of the Inca, and he pays to them a similar homage. But the spirits of the dead rulers still live, they say, in the mountains, and when drinking an Indian will wet his fingers and offer them to the lips of invisible ghosts.

From Cuzco in the old days four roads led east, west, north and south. The north road stretched across the Cordilleras as far as Quito on the Equator, over 800 miles away as the crow flies. It was carried through tunnels and across bridges hung from maguey cables, always following the crests of the hills. Gradients were of little matter, for there was no wheeled traffic, and the beasts of burden were the sure-footed llamas. Travelers went on foot, except the Inca, who was carried in a litter. Post houses were erected every few leagues along the roads, and at intervals there were granaries and store-houses for the use of an army on the march.

The city of Cuzco was laid out then on a regular plan, following much the same lines as it does to-day. Then, as now, the centre of the town was the great square. The Cathedral on the east side stands on the site of the Inca's palace, but no trace of the ruins is to be found. The gilded wooden grilles enclosing the side chapels perhaps awake in the imagination of the Indian

worshippers some idea of the golden splendours of the older building.

The square itself is laid out with gardens in which the trees make a shade, grateful at midday even at this altitude. When they were first planted soil was brought from all parts of the Inca's dominions to signify the unity of the Empire. Two-storied porticoed buildings occupy the western and northern sides of the square, and above their brown roofs are seen hill-sides, splashed yellow here and there with patches of corn. The steepest hill to the north is crowned by the fortress of Sacsayhuaman, the scene of desperate fighting during the Inca revolt against the Spaniards. From here the young Inca Manco Capac (named after the founder of the dynasty) poured down flaming darts into the city and set fire to it; and here Juan Pizarro, leading his men to the capture of the citadel, received his fatal wound.

On the south of the square is the old Jesuit convent, now the home of the university. By its side is a narrow street with walls on both sides of perfect Incaic masonry. The wall on the western side, behind the Jesuit church, formed part of the building in which the Virgins of the Sun were housed, and the street itself leads to the Temple of the Sun (Coricancha) now the Dominican monastery. This was the centre of religious observance under the Incas and contained smaller temples to the moon, stars, thunder and lightning. Parts of the walls of these temples still exist, and some years ago more were discovered by stripping the plaster from the walls of the cloister. The stone doorways, narrowing towards the lintel, have been fitted with wooden doors shaped to correspond. The rooms within, now roofed with stone are quite habitable, and but for the archaic shape of their doors one might almost take them to be

PLATE XVIII.

SANTA BARBARA.

Horses climbing down from a rocky ledge 14,000 feet high. Below are the remains of buildings left by the Spanish quicksilver miners.



part of the modern building. The niches round the walls, however, show their origin; these niches, found in all Inca buildings, apparently served the purpose of shelves or pedestals for idols.

The most extraordinary piece of stonework is the semi-circular wall at the western end of the convent, the surface of each stone being cut to the required arc. Close to this wall was the famous "Garden of the Sun" in which were exquisitely fashioned trees, flowers, animals and birds, all of gold.

Turning from Incaic to Spanish art, the visitor will look at the cloisters of La Merced, the carved stalls at the Franciscan convent and the pulpit at San Blas. Then he will wander through the narrow streets under the overhanging balconies, occasionally seeing through some open doorway a group of figures, which reminds him of a picture by Goya or Velasquez. Under arched gateways, sunlit patios invite him to enter and explore the deeper shadows beyond. Everywhere are stone columns and rounded arches, as if the inhabitants, once having learnt the secret, were always seeking to employ this art of building. If the visitor in peering into these recesses smells, as he surely will, a sweetish smell, and sees a group of men and women squatting round a tall cylinder, let him not imagine he is witnessing some pagan Inca rite. They are waiting for their bottles to be filled with aguardiente—in other words with rum.

The day of my first arrival at Cuzco was the eve of the feast of St. John the Baptist. At nightfall there was a continuous shower of rockets in the Cathedral square, and a blazing chariot was dragged to and fro, from which squibs and crackers exploded at intervals. A military band assisted, and band and fireworks together combined to banish sleep from the city till the early hours of the morning.

St. John is the patron saint of wool-growers and shepherds,

and on his day every family from the hills round brings down one or more lambs, gaily decked with ribbons, to attend mass either in the Cathedral or in the church of St. John adjoining. Both men and women wear the best clothes they have, which, truth to say, are usually old and ragged, though bright in colour. The men wear their ponchos woven in patterns of many colours, as bright as any Fairisle jersey ever seen. Usually their coats are cut off short above the waist, but some still wear the long frock coat, slit over the hips, which was the common dress of the European cavalier in the 17th and 18th centuries.

The women wear shawls, as brightly coloured as the men's ponchos, fastened over the breast with a silver pin, often worked into the form of a peacock with spread tail. The women carry their babies slung over their shoulders in the *quepi*, and both men and women wear the round monteras—called irreverently by Americans "pancake hats." These are made of straw, covered with black wool on top and scarlet flannel underneath. The top is embroidered with strips of white and silver braid and the whole forms a most imposing but somewhat bulky head-gear. It is kept on the head by a tape under the chin.

At ten o'clock on the morning of St. John's Day, the steps in front of the Cathedral were covered with peasants in these costumes nursing their lambs, or running after them when they strayed. Inside the Cathedral itself a chorus of bleating rose against the solemn chanting of the Mass, and at its close the lambs were taken up to the priests to be blessed. The firework shop was kept busy supplying squibs and rockets the whole day long and the ensuing night.

The best view of Cuzco is obtained from the hill to the north on the road to the fortress of Sacsayhuaman. From a broad platform in front of Manco Capac's palace, the brown roofs of the city are seen through a screen of eucalyptus trees, spreading

in all directions across the plain. The towers and turrets of the many churches rise above the level of the low roofs, and the row of white arches round a patch of green shows the position of the central square.

The path to the fortress leads further up a cleft in the hill and passes the ruins of an Inca aqueduct, which was carried across the valley on a series of stone arches. The walls of the fortress nearest the town have been pulled down long ago by later builders, but those on the far side still stand. They are built of enormous blocks of stone, some of them twice as high as a man on horseback, the walls running in a series of rectangles. There are three walls, one inside the other, separated each from each by the width of a carriage road. The earth was apparently banked up behind each wall to form a parapet from which the defenders could hurl their javelins and sling stones upon the enemy.

A man who came up from a neighbouring farm to serve as a guide, when asked how these enormous granite rocks were brought into place from the quarries many miles away, said there was no trouble about that as the Inca had only to burn a few herbs and make some incantations and all the stones fell into place as he desired.

As a matter of fact the fortress is believed to be mainly of prehistoric construction but adapted by the Incas to their own methods of defence.

Below the walls is a level field like a parade ground, now sown with wheat, and beyond this are a mass of rocks containing caves and short tunnels. From here it is said there was a secret passage underground to the centre of the city. The exit is believed to have been underneath the Church of the Jesuits. On the top of the rocks is a seat with steps leading up to it, carved out of a smooth ice-worn slope. This is called "The Incas

Throne " and here the sovereign is supposed to have sat to watch the building of the walls across the field below. Over the top of the walls in the far distance, beyond the southern end of the valley in which Cuzco stands, the view is closed by a fine snow mass rising from among brown and purple hills.

Many of the large rocks near the Inca's throne are cut so as to form seats, and some have steps leading up to them. The purpose of these seats is not known, but they may have been used in religious ceremonies. The astonishing thing is that hard stone should have been cut so smoothly by people who were ignorant of iron or steel. The only cutting metal they used was copper, but this they hardened, by a process never since discovered, with the addition of a small proportion of tin.

The Rodadero is a smooth slab of rock behind the Inca's throne, down which visitors are accustomed to slide. It is worn into perpendicular grooves apparently by the action of ice.

There are many other Inca ruins on the hills round Cuzco, the nearest being Tampu Machchai, about three miles from the Rodadero in a north-easterly direction. This is supposed to have been the palace of Thupacc Inca Yupanqui. It consists of two walls of large squared stones mixed with smaller ones. A couple of rude huts have been built of some of the stones and others have been used to make pens for llamas. To such uses are now put the buildings erected as an Imperial residence.

CHAPTER XVI

DOWN THE QUEBRADA

ON the day following the feast of St. John, I left Cuzco for a trip into the montaña. The new narrow gauge railway which is in course of construction to St. Ana took me as far as Ollantaytambo, and from there I rode north-west down the defile of the Urubamba River.

The railway leaves Cuzco by a series of steep zigzags over the hills to the north-west, and crossing their crests runs down on to a broad level pampa. Beyond the pampa can be seen, rising above the mountains at the far end, two white cones almost perfect in form; one is the peak of Sacantay (21,000 feet), and the other Soray (19,000 feet). The line runs for some distance across the pampa, and then, after passing the town of Iscuchaca, enters a narrow defile with cliffs on either side. These grow steeper and higher till the line emerges into the valley of the Urubamba, where a towering wall of bare rock faces it across the river. Here the line forks, one branch going east to the town of Urubamba and the other west to Ollantaytambo.

The Ollantaytambo branch soon crosses the river, cutting through some Inca ruins near the bank. A bridge with a stone pier in the middle of the river was, it is said, being built by the Incas at the time of the Conquest, and left unfinished. Suspension bridges now connect the pier with each bank of the river. Further on the river was canalised by the Incas and the stone embankments still remain.

At Ollantaytambo are some of the most famous Inca ruins.

They stand on the hillside above the modern village and the walls are silhouetted against the sky. I left them to be visited on my return, as I had several leagues to cover before dusk.

I struck a bargain with a man for two saddle mules, but he said he had no boy to act as *arriero* and guide. However, a strong-looking boy was produced in about five minutes, who said he was willing to go with me. He asked for a small sum in advance to buy bread, and in about half an hour came back in his best coat with his pockets bulging.

We started along the railway track in the early afternoon, leaving it hurriedly on the approach of the train on its return journey to Cuzco. Scrambling along the mule tracks by the side of the line we met a man and his wife riding in, followed by a pack mule carrying their gear in black leather bags. For some reason my mule refused to pass the black baggage and plunged this way and that till the pack mule was taken down the hillside out of sight.

The floor of the valley here (8,000 feet) grows wheat and maize. Molle, buddleia, carob and alder trees flourish, and among the flowers I saw a small pink orchid growing between the rocks.

Beyond railhead we took to the track again, passing through several tunnels, for the valley now narrowed and its sides steepened. At length we came to a bush-covered level space by the side of the river where the railway camp formerly was. We were told that it had now moved to the further side of the steep hill which jutted out into the river bed. This place, I was told, was called Ccorihuairachina ("The place where gold is winnowed") apparently in allusion to the washing of gold in the river.

The path led over the side of the steep hill, the tunnel

through it not being yet passable. We halted at the bottom of the ascent to adjust the saddles; these had cruppers to prevent a slip forward, but nothing to prevent them slipping back. In climbing a steep place there was always a chance therefore that the saddle would slide suddenly over the mule's tail. Under the saddle was laid a thick blanket; then came a thin leather mat stamped in an elaborate pattern; and over this, but not covering it entirely, was placed the saddle itself. The saddle was covered with a soft rug of alpaca hide, called a "peon," and over this again was strapped my raincoat.

A file of pack mules was coming down the path, the first of many we were to meet on our way through the quebrada. We stopped at the bottom till they passed, and then scrambled up the zigzag trail. It grew steeper and stonier, and presently was nothing but a narrow ledge along the cliff side. My boy, following behind, shouted to me to dismount, but at the place where I was I could not, as one foot was touching the rock and the other was overhanging the river. I urged the mule on to a broader place and then dismounting led her forward by the bridle.

The usual bridle in this country has leather thongs instead of reins; these end in a ring, to which is attached another long thong used as a whip or lead. When riding, this thong is thrown over the back of the saddle, and when leading one's mount on foot the thong enables one to climb a rock ahead or cross a stream and then urge the mule to follow.

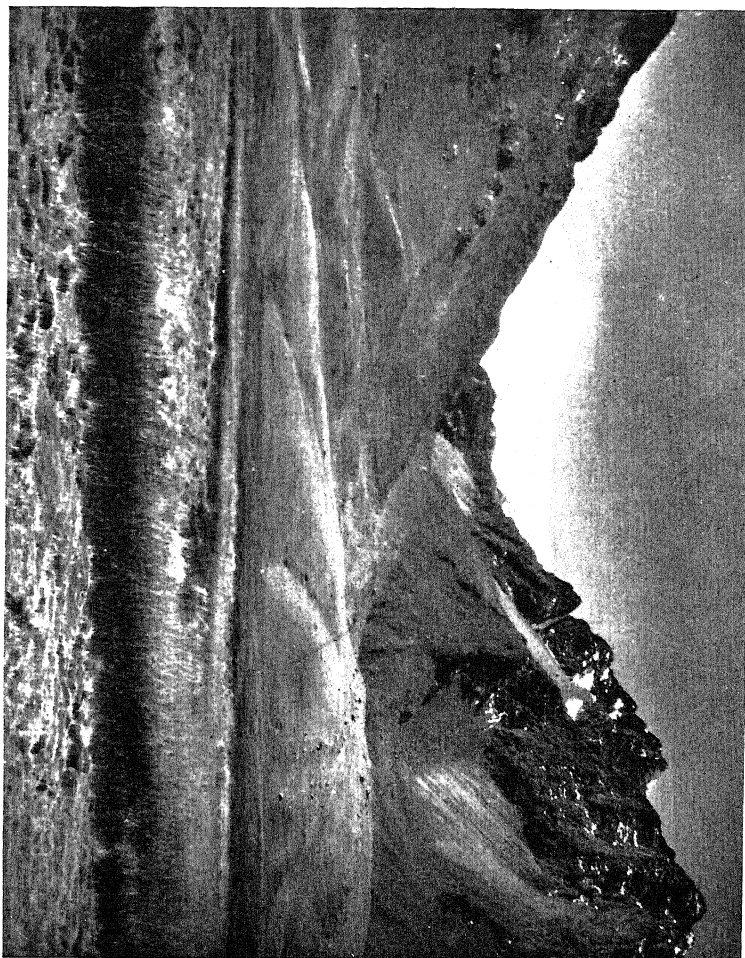
We passed the most precipitous part of the cliffs on foot, having the river some hundreds of feet below on our left; the hill then receded from the bank and we went down winding paths to a collection of huts by the railway track below.

I found two engineers quartered in a cabin built of rein-

PLATE XIX.

LA RAYA.

The peaks of Vilcanota, with Mount Ururana, snow-covered, in the distance. The water from the lake in the foreground divides, part flowing into Lake Titicaca and part into the Amazon.



forced mud—that is mud plastered on chicken wire—with a corrugated iron roof. It was quite snug inside, and there was evidently in the background an adequate kitchen. I was made at home at once and lay that night in luxury.

Near the camp I was shown a ruined Inca house at a place called Incaraccay (literally “The Inca’s rest house”). Here the Inca was accustomed to pass the night on his journeys north from Cuzco, proceeding next day by a hill path over the crests of the Cordilleras. The old road did not follow the windings of the valley but went straight north along the mountain ridges. Above our heads was a great snow-field and I was told that, according to common belief, the hidden treasures of the Incas lay somewhere behind its crest.

The ruins of Incaraccay are built of irregular stones well fitted together. Half the side of one house is composed of an enormous rock cut smooth to form the wall, with niches in it for the idols, and shelves projecting from its surface. A series of knobs have been left in the face of the wall; these are found in most Inca buildings, but their purpose is unknown.

There were many other ruins in this part of the valley and the sides were terraced for cultivation. Above the *anden*es cliffs rose to a great height, ending in snow peaks which, lit by the rising moon, still hidden behind the mountains, looked like white clouds floating in the starry sky.

The next morning we left the railway camp soon after dawn and rode down the valley. A cold wind was blowing through it and we watched with eagerness the first gleams of sun descending the mountain sides till they fell upon us at a turn in the path. They were soon cut off again by cliffs, for we were entering a defile where granite precipices rose some thousands of feet straight from the river bed. Their sides were covered with a clinging plant something like a small aloe which bears

a spray of red flowers. On the northern side of the river, on which our path lay was a narrow fringe of woods between the river and the cliff.

The trees were at first alder and molle as on the previous day, but bushes of blue fuchsia and begonias showed that we were entering a sub-tropical region, and soon great hart's tongue ferns began to cover the rocks and creepers to hang down from the trees, stretching from side to side of the path so that one had to be careful not to be ensnared by them. Among the trees were *Erythras* with crimson flowers and trumpet trees with drooping lobed leaves.

Butterflies played in the patches of sunlight which turns in the path disclosed, and in the woods, golden orioles whistled. At one place I heard the flapping of wings among the leaves, and turned in time to see some large bird like a capercailzie or guan disappearing among the trees.

Among the smaller birds the most interesting were some like tits, dark blue above and bright yellow below (probably *Euphonias*), which searched the outer branches of the trees for insects. There was another small reddish bird which appeared to be a tyrant, and also a species of flycatcher. By the streams I saw a little wren-like grey bird with dark head and wings (also a species of flycatcher) which I had seen before on the Chanchamayo River. It fluttered along by the mule's feet for some distance as if it enjoyed company.

As we went further down the valley the precipices rose higher, sometimes facing us ahead at a bend in the river and sometimes flanking us and sending back gleams of sunlight into the shady woods where we were riding. The vegetation was rapidly growing in luxuriance, and we often had to push aside tall broad-leaved plants which overhung the path. Tree ferns now made their appearance, and their graceful stems and

branching fronds set the seal upon the tropical character of the wood.

Calceolarias grew here in bushes with blooms of a brilliant yellow, as big as strawberries, and I noticed several kinds of begonias. Some rocks were covered with sprays of a small pure white variety which hung down over the path in festoons; another pink sort with larger petals grew about six feet high; and a darker pink species with red leaves grew in profusion in the lower part of the defile. A few orchids were to be seen and some bushes of datura.

The path through the woods was very rough, alternating between swamp and bare rock. Sometimes we came to a side valley down which a torrent rushed. The bridges were usually broken or unsafe and we had to ford, forcing the mules, much against their will, to feel their way through the foaming water among the loose boulders and holes. At other places the cliffs approached the water and jutted out over it; here the track led round their outer face from one projection to another. Where a gap occurred it was bridged by logs and faggots, and over this one rode with the river eddying below.

Rough staircases were cut at some points in the rocks and these one usually rode, only dismounting at the places where the mule had to jump more than two feet or so up or down from one rock to the other.

All the way as far as the iron bridge at San Miguel we only passed a few huts and had difficulty in obtaining fodder for the mules at midday. We carried biscuits and canned meat with us, but our requests for bananas at every hut we passed met with a disappointing, but only too familiar answer. However, every mule train we met was carrying bananas (which the men would not sell) and we knew there must be plenty further down. When we crossed the bridge to the southern bank and

entered an open district of coffee and sugar plantations we at length obtained as many bananas as we could carry for 20 centavos.

The scenery at the bridge is grand both up and down the river. Woods clothe the hills to a great height, and above them are a series of precipices one above the other, rising to snow peaks.

I have seen no defile to which this can be compared except that of the Narenta in Bosnia, but here in Peru the mountains are higher, the river is broader and stronger running and the scenery, rising from tropical forest to eternal snow, more striking. When the line is completed as far as Santa Ana and passengers pass through this defile they will see views unequalled on any railway in Peru.

As I looked at the foaming river I wondered why this railway should import coal from Cardiff and Australia when there is here by its side enough water power to drive all the railways in the country. I suppose the answer is that until the line reaches here it will be impossible to bring the machinery necessary to harness the river.

Above the defile at this point is the ruined city of Macchu Picchu which is on a mountain top three thousand feet above the river. It is believed to have been built about a thousand years before the Inca era and had long been abandoned at the time of the Spanish Conquest. Even the Incas at that time had forgotten its existence, and to this day no one knows who built the city nor why it was deserted so hurriedly that the dead were left without proper burial. The place is now overgrown with vegetation and is the haunt of poisonous snakes and spiders. There is no water near the city, and it is suggested that the sudden failing of the water supply, due to an earthquake, may have been the reason for the sudden evacuation of the town.

Some years ago a Commission from Yale University under Dr. Hiram Bingham made an investigation of the ruins and unearthed some three hundred houses and more than one hundred streets and stairways. These stairways lead downwards towards the river. The central one has wells on either side and leads to a plaza surrounded by imposing buildings. The most remarkable of these buildings is the temple known as the "Tres Ventanas," from three striking windows which it contains, wider and more symmetrical than is usual in ancient construction.

Owing to its extreme difficulty of access Macchu Picchu is believed to have been originally a refugee settlement. Many of the Incas fled there at the time of the Conquest, for its commanding position insures it against a surprise attack.

After riding another league down the river we reached a suspension bridge over it, leading to Santa Ana. We however, kept to the left bank where we were to stay, and in half an hour saw the hacienda of Huadquiña below us across a stream. We crossed this at dusk and arrived at our journey's end just as darkness was closing in. We were fortunate to do so as it is practically impossible to ride these mountain paths after dark without a moon.

CHAPTER XVII

THE URUBAMBA VALLEY

THE hacienda at Huadquiña is one of the richest in the district. Its distillery can produce, I was told, 1,500 litres of cane sugar spirit per day, and the houses of the workpeople form a small village round the residence of the proprietor. The house is a large one-storied building with a long range of rooms leading on to a broad verandah. The verandah overlooks a garden full of flowers and one sees, beyond the white clock-tower and the bright green sugar fields, a fine snow summit rising in the distance. At the back of the house the windows look out on to an orange orchard through which a stream runs. Wooden grilles take the place of glass in the windows, for it is never cold here. All kinds of manufactured house furniture are at a premium, especially such as cannot easily survive transport on mule-back.

The owner was at her Cuzco house at the time of my visit, but she had given me a letter to her major-domo on the estate. She was expected shortly, and I was told would travel with her own tent and bedding and cook. Even with these precautions the journey is a bad one for a lady, as it means clambering over rocks for hours on end.

We left Huadquiña soon after 9 o'clock, having only four leagues to go to reach Santa Rosa, another hacienda belonging to the same owner, where we were invited to spend the night. We retraced our road to the bridge, and crossing it went down the right bank through another narrow defile, not so high or imposing as the one of the previous day. About the middle of

the morning it became warm and we rode into a yard where we saw orange trees and asked for fruit. An old man said the fruit was not his, but we could have some for the picking. My muleteer, whose name was Bernardino Hermosa, and another boy climbed the trees and knocked down about a score of oranges, for which the man refused payment.

About midday we began the usual inquiries for fodder, being told everywhere that there was none. Like every traveller off the beaten track in Peru I began to loathe the words "*No hay*" and the blithe way in which the people said them. I could see the words forming on their lips before we had made our request, and soon learnt never to take "*no hay*," or the longer and equally odious Quechua equivalent, for an answer.

It was explained to me that the reason the people always declare they have nothing, is that they live more or less on the borderland of want, and are therefore very unwilling to part with anything edible. An Englishman told me that when travelling in a desert region he came to a hut and demanded water. The old woman inside declared there was no water in the neighbourhood, and refused to say how she lived without any. The Englishman, being really in an extremity from thirst, was obliged to draw his revolver. At that the old woman produced a jug of water from under the bed.

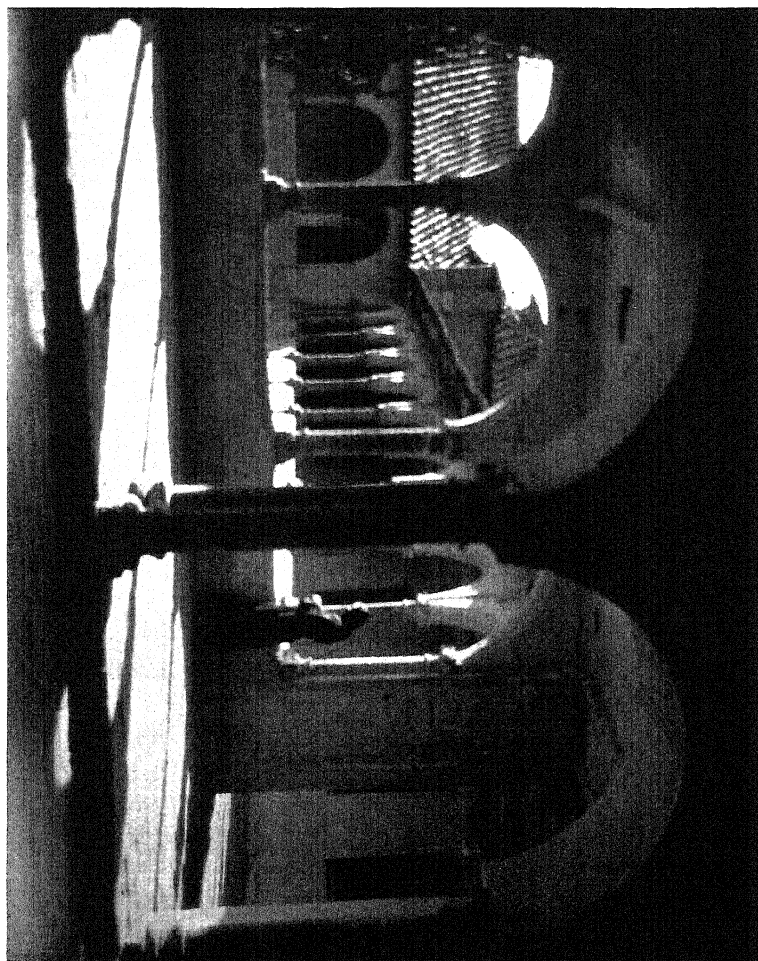
The unwillingness to sell is often followed by generous gifts. The man who would not be paid for his oranges was only one of many. As we sat at lunch in a corral that day, having obtained some fodder for the mules after great difficulty, the woman of the place sent her small son across to us with a plateful of oranges and bananas.

We crossed the river again in the early afternoon and went along the narrow path on the other side, meeting many trains of pack mules laden with coffee. When two mules meet on

PLATE XX.

CUZCO.

The upper cloister of the Franciscan Monastery.



these narrow paths both edge towards the inside away from the cliff. A rider has to be quick to force the oncoming pack mule on to the outside edge. The pack of a well-laden mule may be nearly six feet across, and it is only at certain places that two animals can pass. On coming to a narrow part, people look ahead along the defile and listen for the bells of the leading mules and the whistles of the *arrieros*. Sometimes they can be seen a long way off, creeping round some jutting rock face. Then one selects some niche against the rocks and urges one's mount into it till the train has passed.

Falls over the edge are frequent and the losses of goods and animals from this cause are a considerable item. The pack is heavy, besides being bulky, and if one animal cannons into another the other stands a good chance of losing his balance and falling over. For this reason it is extremely dangerous to let a pack mule pass inside, as he may suddenly lurch outwards.

I have never seen a mule fall from the path, but an American engaged on the Tacna Boundary Commission told me he lost two during a thunderstorm. The lightning seemed to be striking the rocks at his feet, he said, and the thunder echoed and re-echoed all round. The mules became frightened and two attempted to turn and run back along the path. It was not wide enough for them to turn and their fore-feet slipped over the edge. The weight of their packs made useless their frantic efforts to save themselves and both went down into the depths. My friend said that their screams as they felt themselves falling were truly bloodcurdling. The abyss was so deep it was impossible to go down to recover the goods.

When we issued from the defile we came to a valley where coffee and coca were growing in fields on both sides of the river. Round the groups of thatched huts were banana trees 20 feet or more in height. We drank sweet chicha at one of these

huts. It is made of the juice of the sugar cane mixed with water, and is milky in appearance.

The hacienda of Santa Rosa stands on the road by the bank of the river. It is smaller than Huadquiña but, being lower down the valley and warmer, grows cacao in addition to the other crops. The leaves of the cacao trees here were a bright green, whereas those I saw in Trinidad were almost black. Men were busy in the drying ground—a walled enclosure paved with stone—packing the dried coca leaves into baskets and closing the ends with strips of banana tree bark.

I dined here with the family of the manager at a long table in a verandah at the back of the houses. We had the usual meat, yucca and potato soup and then more portions of boiled meat and boiled potatoes. People here peel and eat potatoes all through the meal as we nibble bread. There is no wheat and consequently no flour or bread in this valley. Small flat loaves as hard as rocks are imported from Urubamba, but they are delicacies for the strong-jawed. It seems astonishing that no one takes the trouble to bake bread, but I was told that the cost of transport of flour would make the price of bread prohibitive. Yuccas, which grow to a great size here, largely take the place of bread, and the people do not seem to feel the lack of it. I was not even given any maize bread, although there are plenty of maize fields in the hills.

My boy had waked me in the morning at Huadquiña with the announcement that my mule's chest was swollen, and although we had rubbed the place with soap and water, according to the local prescription, and altered the girth, the swelling had not decreased by evening. Every one said it was due to tight girthing, but if one does not girth tightly on the steep parts of the road the saddle is sure to roll off and pitch the rider over the mule's tail or over the edge of the cliff. So when the mule

was considered sufficiently cool we took her saddle off and rubbed her again with soap and warm water. The next morning she was better, and by taking care not to let the girths slip forward she soon lost the swelling.

There was no spare room at Santa Rosa and the only available bed was a stone bench in the porch by the roadside. A wooden bench was placed against the stone one and with a mattress and a blanket over them, a rather hard but airy couch was made. It was worth the hardness to lie in the open air and to see the moon rise over the hills across the river. Then the cocks began to crow and fitful sleep fled till dawn.

The family here, who had taken me in as a perfect stranger with the greatest kindness, made me promise to stay with them on my return. After drinking coffee from their own plantation we left for Santa Ana, following the trail on the left bank of the river up and down the cliffs through grey woods. From all the trees hung long wisps of Spanish moss, a parasitical growth which looks like grey wood shavings. These wisps were some of them a couple of yards long and formed a kind of screen, through which, as they swayed in the breeze, could be seen glimpses of the sunlit river and the farther shore. I am told that the nearest relation to this freakish growth is the pineapple.

In some of the trees were the hanging nests of the orioles, rivalling in length the trails of Spanish moss. I saw here two birds which were new to me. One was a cassique—black except for its long outer tail feathers which were brilliant yellow. Its yellow beak made it look something like an Alpine chough. The other was a reddish brown cuckoo called *Piaya cayana*. It had the long tail of its family and prominent white spots on the tail.

I heard another bird's voice in the woods. It was a rum-

bling or roaring sound, and Bernardino remarked that the bird bellowed like a bull. I suppose it was the ox-bird, but unfortunately it kept to the thickets and I did not see it.

We had to go some distance up a side valley to a bridge and at a wayside store found a bottle of beer which we carried off with us as a precious prize. Water being unsafe to drink, and the days becoming hotter, we began to look for bottled beer as a traveller in the desert looks for wells. But in nearly every store we entered we saw at a glance that the rows of beer bottles had been opened.

Here we had to cross a bridge of logs and faggots which had slipped to one side and seemed inclined to tilt a little more, so as to pitch the passenger into the whirlpool below. The stream ran between high rocks and roared through the passage, so that we were glad when we were across. We of course dismounted and crossed one at a time.

A little later we crossed an iron bridge over the main river, and on the other side met the owner of the hacienda at Santa Ana, who immediately gave me a note to his major-domo asking him to entertain me.

The valley now broadened and the sun beat down upon its sugar fields with force. We called at a hacienda at midday to ask for fodder, and I was immediately invited to share the excellent lunch of the manager. Here again the owner, a lady, was not in residence, and I was told had never visited her estates, of which she had several in the neighbourhood.

Santa Ana was only a few miles further on, and coming to the river bank in the heat of the afternoon I took advantage of the spare time—a rare luxury in horseback travel—to roll off my mule and into the warm water of the Urubamba. Bernardino looked on enviously till I told him to hitch the mules to a tree and follow, which he very soon did. The current was too

swift for swimming, and as I lay on a patch of blue sand, half in and half out of the water, I wondered whether the river contained those little perai fish which are capable of biting large pieces out of a man's leg.

Santa Ana, although marked large on the map, is really a hacienda near which the dwellings of the workpeople have grown into a village or small town. This has been officially renamed Quillabamba and is the capital of the Province of La Convencion, a district nearly as large as England. Quillabamba has one street, with whitewashed, two storied houses on each side, and a stream running down the middle. It was the most imposing looking place we had seen since leaving the railway, and we were pleased by the many well-stocked stores, some containing stacks of loaves. Bernardino, who was by trade a baker, told me the bread of Quillabamba was made with milk and was very good. It seems that the town has solved the question of the importation of flour.

I stayed two nights at the hacienda of Santa Ana, a fine old building with enormous rooms a good deal out of repair. The long gallery outside the parlour and bedrooms looked over the drying yard where men were busy all day turning coca leaves. Beyond were sugar fields and a broad pampa where our mules were soon at pasture.

We dined in a high, timbered hall with a stone floor, and the fare was as liberal as it usually is in Peru, except in the high altitudes. I was rather surprised when a dish of junket was placed upon the table, to be eaten with molasses.

The head of the table was taken by a Dominican friar, whose white robe struck really the only picturesque note in the room. I wondered what impression it would make on the owner if when he returned from Cuzco with his wife he should find his *comedor* suddenly transformed, the roof timbers varnished, the

window grilles repaired, the floor tiled and the walls cleaned and hung with portraits of bygone inhabitants of the house. It wants little to turn these great farm buildings into country mansions, except that instinct for comfort to which the resident owners are strangers. The others live in Cuzco or Lima.

The hacienda of Santa Ana possesses one thing which not every English country house has, and that is a swimming pool. It is enclosed within a wall in the kitchen garden. There is a covered alcove in which to undress, and steps lead down into the pool. Although there is only just room to swim a stroke and a half before turning, to swim at all is a rare pleasure in this hot country, and one realises how the otter at the Zoo may enjoy turning round and round in his small tank.

I inspected the school at Quillabamba and learnt that some of the scholars walk in a distance of three leagues daily. Everybody asked me when the railway was coming, and most believed it never would. The more far-sighted pointed out that the railway should go on past Santa Ana to the navigable waters of the Vilcanota River, so that they could export their coffee, sugar, cotton and cacao by way of Iquitos to the Atlantic.

At present these valleys of the montaña are cut off from the outside world by the Andes in the west and impenetrable forests in the east. They are overflowing with natural wealth, for the warm and well-watered soil and the difference of altitude enable almost every tropical and sub-tropical crop to be grown. But these crops, for which the markets of the world are waiting, are at present out of reach. What is wanted is railway connection down the side valleys to the navigable tributaries of the Amazon, so as to sweep into this great waterway all the varied products of this vast and unused region.

CHAPTER XVIII

CROSSING EL PUERTO

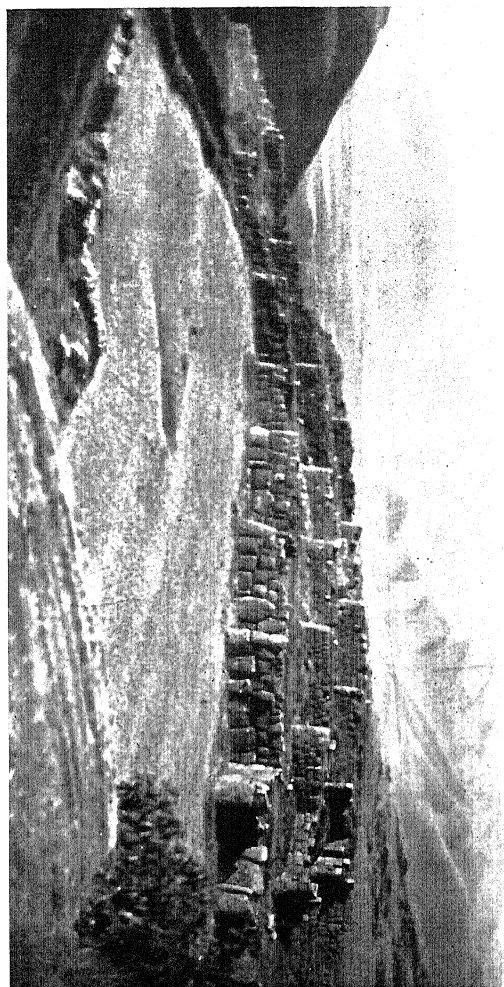
WE bought as much bread as we could stuff into our saddle bags at Quillabamba, and in addition I bought a pair of well-used brass spurs with rowels of useful length, as I was tired of kicking my mule along the trail with my heels. We were advised not to go back to Ollantaytambo along the quebrada but to take the high road over the pass of El Puerto. This, I was assured, was a much better and safer road without any drawbacks except the cold on top the pass. A man who was also staying at the hacienda suggested we should go together and I agreed, but next morning when we started he was delayed and we saw him no more. I suspect that he followed by the valley road, thereby obtaining the beds which I had left vacant.

The first day was very hot along the river bank. We left it at the bridge shortly before noon and struck up a side valley filled with orange orchards. We rode into one orchard and knocked down about a dozen oranges with a long pole. When the owner appeared he declared we had eaten a score, but we contented him with a cigarette and went on our way, asking everywhere for fodder. We obtained some at length at a large farm house where we were invited to eat our lunch in a small room. I asked a boy who was looking on to get me some oranges, but he immediately replied that there were none. Bernardino and I pointed out that the trees all around were golden with fruit, and finally the boy went to look for some,

PLATE XXI.

SACSAYHUAMAN.

The three walls of the fortress, seen from the "Inca's Throne." The walls are built of gigantic blocks of stone in a series of salients. Cuzco lies in the valley beyond.



coming back in a few minutes with an armful of both bananas and oranges.

In the yard of this farm was one of the most distressing sights in the world—a dying horse. He was a mere skeleton of a horse, old and white, and had dragged himself into the shade of the distillery wall where he lay at his last gasp. No one took any notice of him.

About four o'clock in the afternoon we reached Huiro, a large hacienda belonging to a lady who owns all the land hereabouts for many miles. I had no introduction to the manager but I rode brazenly up to the door and asked for a night's lodging. I was immediately made free of the place, for at these haciendas the expression "*es casa suya*" is no idle one. The owner really puts all he has at the disposal of a passing stranger.

On this occasion I was invited at once into the dining-room, where I found a number of people including two Franciscans, the manager's wife and several children and young men. A plate of roast meat was set before each of us by the Indian boy servants and we helped ourselves to potatoes, boiled in their jackets, from a dish in the middle of the table. After the meal beer was produced.

I remarked to one of the Franciscans that they dined rather early and he said, "Oh, this isn't dinner; this is lunch. We dine here at six o'clock."

"Lunch" in South America corresponds to afternoon tea in Europe. This one was served soon after four o'clock and sure enough a couple of hours later, at sunset, we sat down to a dinner of several courses, ending with a popular local sweet made, I believe, of cream and honey.

After dinner one of the sons took me over the distillery which, he said, could produce 300 litres of spirit per day. I asked for a taste as I had not yet tried *aguardiente*, though I had

smelt it often enough and seen many people on the roadside who were drinking it, or had evidently recently done so. The young man unlocked a trap-door in the floor of the distillery and let down into it a copper cylinder as long as a tall candle and as big around. I should have liked to be able to drain this off at a gulp, but had I done so the result would no doubt have been startling to all concerned, as the spirit was extremely strong though not disagreeable in taste. It is sold locally at ten centavos (about four American cents) a bottle. Bernardino bought a bottle and some cakes of molasses before we started next morning, as he said both were good against *soroche*.

I had some talk later in the evening with one of the Franciscans about a trip which he was planning to Europe. It is to last a year and to include all the places of interest from Paris to Jerusalem.

The next morning, after a night made restless by mosquitoes, the manager said I must come and look at his tea garden. I expressed my surprise at the notion of tea in Peru, but he told me the tea on the table was from his plantation. The plants were introduced some 30 years ago from Japan by the late owner, and have flourished and spread to other farms in the valley; but no one knows the best way of drying the leaves and the quality of the tea is therefore not good. The manager was anxious for some expert from Japan to come and show them how to deal with the crop.

The trees were growing freely, some of them about ten feet high. Their small, creamy flowers reminded me of myrtle. It seems certain that there is a potential source of wealth here which is now neglected.

During the morning we passed through several shady glens filled with tropical vegetation, but for most of the way the track led through sunny banana plantations. At some villages

I saw pupils sitting at work in verandahs outside the village schools. Elementary teaching struggles against enormous difficulties of distance and transport in Peru, but the education of the Indian is recognised as a problem of pressing importance. I am told it is one which President Leguia has very much at heart.

We rose above the last banana plantation about midday before we had thought to fill our saddle bags with them. Then we began the usual search for fodder, which ended in Bernardino having to go a long way up the hillside with a knife to cut some. I waited in an Indian woman's hut and lunched off the sardines and bread we had brought with us.

The hut had bamboo walls, without any mud inside or out, and a thatched roof under which maize cobs were drying. The floor was of earth, and round the walls hung various utensils, most of them gourds. Some of these had long ends near the stalk, shaped like handles, with a hook to them. Guinea pigs, fowls and dogs ran about the room, and as I sat there a fine silver turkey entered, followed by a black turkeycock who began to gobble and display his feathers till the old woman drove them both out. Then a pig suddenly seized our bread bag, which Bernardino had set down near the door post, and ran off with it. I rushed out after the pig and he dropped the bag in the mud.

"Ah, these pigs; they are terrible," said the old woman, stirring hot chicha over the fire in a corner of the room.

I asked her to let me taste the chicha, but found it too sour. So I told her to boil some water and made myself a mug of tea. Bernardino came back at last with a small quantity of fodder—all he could cut, he said, with the small knife provided—and when the mules had finished we went on along the hot valley side. The other bank was thick with tropical woods in which I could see cloves, bays, tree ferns and a tangle of bamboos

and creepers, but our path kept persistently to the dry sunny side and left us sweltering in heat. Occasionally humming birds or butterflies flew over the river and hovered near us and then dashed back again into the luxuriance of the other bank. Once we saw at a crack in the hills a cascade leaping down through the woods from a height of several hundred feet.

Still we went on up and up between bare rocks or patches of scrub with the green woods looking every hour cooler and more inviting across the river. At about three o'clock we reached Lukumayo, where we had been told to spend the night unless we arrived by midday. However, as it was still early afternoon I was unwilling to stop, especially as Lukumayo is a collection of miserable huts and was already occupied by many muleteers with their pack trains. We pushed on therefore to seek a resting place further up.

The valley sides narrowed rapidly above this place and the tropical woods at last spread to our side, to my great content. But in half an hour we saw on the opposite bank two huts perched above the stream, and here Bernardino said we must spend the night, as the next village was three or four hours away and night would catch us before we could reach it.

A bridge crossed the stream to the huts, but it was too frail for the mules, so Bernardino left me with them and went over on foot to ask for a lodging. He reported that the place was in charge of a young girl who was unwilling to receive us and declared she had no fodder for the mules. However, as there was nowhere else we determined to stay there. Several men were encamped among the rocks on the near bank and we left the mules in their charge, crossing the bridge with our saddle bags over our shoulders. A few rotten logs, which rolled as we walked over them, were all that was left of the bridge. From the other side a rocky path led up to the huts. One of these

appeared to be occupied by the girl, an old woman and some children, and the other contained a bed and little else.

I annexed the bed and asked the girl if she could prepare me some supper. She declared she had nothing to offer me, and when I pointed to the chickens running about she said they were not hers but her father's, and she had no power to sell them.

I asked what she ate and she said her food would not do for me. I insisted that it would do very well and she finally agreed to give me some from the common pot.

While the supper was being cooked, we sent a man up the hillside to cut fodder for the mules. The path over El Puerto is much used by baggage animals and as I stood outside the hut I saw strings of mules coming up out of the woods and passing further up the valley. At dusk the men encamped below had a fire burning and lay on alpaca skins round it among the crevices of the rocks.

A few small fields surrounded the hut and part of the hillside had been cleared for potatoes or barley. All round, above and below, the valley was shut in by a thick curtain of woods. Only above the steeply falling bed of the stream could one see over the treetops to distant hills.

Soon after dark the girl brought me a dish of potatoes, another potato-like tuber called "virraca," and a small portion of meat, all boiled together. As I ate my supper she sat on the doorstep and asked me many questions about Europe and England, and why I had come so far without having anything to sell. This girl, who said she was 15 but looked 18, had been to school at Urubamba and had made friends with an English lady there. She was the cleanest Indian, male or female, I saw anywhere—thanks perhaps to the influence of the English lady—and her intelligence seemed to have been aroused by her stay in a town. She declared she wished to learn English and asked me the

names of all the objects on the table, repeating them with much amusement. What good English would be to her in that valley is a puzzle, for I daresay no English traveller will pass through it again during her lifetime. She wanted to know how long it took to go to Europe, but I advised her as a modest beginning, to take service with some English or American family in Arequipa or Lima.

We went over to the other hut—the kitchen—to boil water for tea. The old woman and the children sat round the fire, and its light, the only one in the hut, played upon their faces and those of the girl and Bernardino, showing varied expressions of surprise and wonder at my replies to their questions about London and Europe.

The girl and Bernardino shared the tea, and the girl asked why it was so much better than the tea grown in the valley. How could they find out what to do to make their own trees yield as good a brew?

Presently we returned to the other hut and the girl asked me where I intended to sleep. I said in the bed, and then hastily inquired whether it was hers. She said it was but she would sleep in the kitchen. However, she presently brought out some sheepskins from a corner of the room and laid these on the floor of the hut with some rugs over them. The old woman and the children appeared and all crept under the rugs. Bernardino spread his blanket and poncho on another part of the floor and I, having unwisely brought no blanket, used the one on the bed, a course resulting in another sleepless night. Beside fleas, mosquitoes were again troublesome, but I was assured by every one that they were not anopheles and that there was no malaria in this valley nor anywhere in the neighbourhood of Santa Ana. One feels almost grateful to any mosquito, however irritating, who does not carry the germs of malaria with her.

We agreed to start as soon as the moon rose about three o'clock, in order to reach Ollantaytambo before night; but when I went out at that hour I found the sky covered with cloud and pitch darkness everywhere. I returned to bed and was wakened from a troubled doze by Bernardino asking the time, and saying he could hear the mule trains on the move in the valley. Indeed in the stillness of the night the whistles and shouts of the *arrieros* could be heard from below as they urged their beasts up the rocky trail. By the light of a candle we pulled on our boots and collected our gear while the girl, the old woman and the children stared at us from their bed in a black-eyed row. Thanking them for their entertainment we blew out the candle and stepping outside left them to finish their night's sleep.

The sky had cleared and the stars shone brightly, flashing in the dazzling way they do in the sierra. The moon in her last quarter gave only a feeble light, and when we began to grope our way down over the rocks to the bridge we were soon in gloom. The bridge creaked horribly as Bernardino crossed it ahead of me. When the creaking stopped I judged he was at the other side and followed, endeavouring to avoid the holes in the dark and to keep my balance when a log rolled under me.

We stumbled against the mules somewhere on the other bank and soon had them saddled and bridled. At this altitude it was cold during the hour before dawn and I was glad when we made a start.

Moonlight and starlight together were just enough to enable us to keep the trail in the deep shadow of the woods. These were still tropical in character, and against the sky one could see the tracery of creepers and the branching heads of tree ferns. Water was falling everywhere and sometimes the path dipped down into a side gully, where the mule splashed through water unseen in the inky darkness made by the thick canopy of

PLATE XXII.

A BRIDGE IN THE MONTAÑA.

All the products of this vast region have to be carried over such bridges to the distant railhead. Losses of pack-mules are frequent.



leaves overhead. Then one felt her climbing up rocks beyond and the path led out round a spur of rock onto the cliff edge where the light from the moon had more play, and one could see the calceolarias gleaming like white blooms and the pale streak of the river below.

Sometimes a flying form would rise from in front of the mule's head and flick past one's cheek before one could tell whether it was bat, bird or moth. Shadowy forms that might have been birds or monkeys moved silently through the branches of the trees, and now and then the cry of some night animal made the mule twitch her ears.

I had glimpses through the trees of unknown stars, for I had never seen the sky of the southern hemisphere at this hour of the night. Then as a gorge across the valley opened I saw an old friend, Venus, rising in the east, but beaming with a far intenser light than I had ever seen her in Europe.

At another turn of the trail I saw above the trees something white rising like the wing tips of a sea gull into the violet sky. These were the eastern facets of the crags on the summit of Veronica, the great mountain ahead of us. They held the snow and reflected the pale light of the coming dawn, leaving the other slopes and the glacier crevices between them grey in the shadow. Every moment the light on the mountain top grew stronger, till at last it was gilded by the direct rays of the sun, and the snowfields glittered through the trees as the windings of the road brought them again and again into view.

As the first light of dawn began to filter through the trees bird notes were heard, but there was not the outburst of song that there would have been on a fine morning in an English wood. However this was midwinter in Peru and therefore probably not the best singing season. When there was light

enough to see I noticed some handsome green birds as large as thrushes with yellow or white spots on the wings.

While watching the birds as we clambered up a steep part of the trail my attention was distracted by the curious appearance of my mule's shoulders, which seemed to be growing larger. I wondered sleepily if I was dreaming, but suddenly became wide awake as I realised the saddle was slipping off. I was off first and had my feet on the ground as the saddle rolled over the mule's tail, saddle bags and all flopping into the mud. The mule lifted her feet carefully out of the girths and walked on.

Bernardino roared with laughter when he saw what had happened. He always did at any accident. This one was entirely his fault, as instead of leaving my mosquito net behind to save space as I told him, he stuck to it and had spread it under my saddle as a kind of extra horse cloth. I told him it would be no joke if I rolled over the edge next time. He then announced that the crupper had broken off and I searched up and down the path for it in the half light. At last I thought of looking under the saddle for it, and there it was tucked in against the mule's back.

"*Caramba!*" said Bernardino, and I said something else.

By the time we were off again it was full day and butterflies were already out, blue morphos among them. We crossed and recrossed the river on log bridges and, still climbing, at last rose above the tropical woods and came to mountain pastures fringed with quinar and willow trees.

At one of the steepest parts of the path where we had to walk I followed Bernardino's advice and let my mule go on by herself. But when I wanted to mount her again the cunning brute ran on ahead and refused to let me catch her. Bernardino burst out laughing again, but I was tired and angry and told him to catch the mule for me, which he at last did. As I

mounted her I swore she should carry me every step of the way to the top after that trick. Whenever she stopped at a steep place after that, waiting for me to dismount, I spurred her on again, and pretended not to hear Bernardino's cries from behind that the path was too rough.

As we came out on a rocky ledge we saw the whole wooded valley below us with its glens and waterfalls and a fine snow mountain rising at its lower end behind us. Ahead the snow masses of Mount Veronica now seemed right above us and Bernardino warned me not to look at the snow as it was too dazzling.

We came to a hut about eight o'clock and saw there a man we had met on the previous day. He had slept among the rocks opposite the hut and had gone on before we were up. He called to us to take a cup of chocolate with him, an invitation which we lost no time in accepting. Afterwards we went on together and about two hours later, still going up, reached Yanamance, the place we had not time to make on the previous day. Here they had hot black coffee and I drank a large cupful, although it is bad to do so at these heights. I soon afterwards suffered for it. There were some rough bunks in the hut made of bamboos; I was glad we had not slept there, especially as the place must have been extremely cold, and probably crowded with muleteers.

A little further up, above the tree line, was good pasture and we let the mules graze. Above here the steepest part of the climb begins and it is usual to walk to the top. The height is nearly 14,000 feet and when we began to climb I found myself panting and wanting to sit down at every few steps. Two bad nights had left me in no condition for hard work before breakfast at such an altitude.

Bernardino laughed as usual at my discomfort, and when

I reproved him he said one must suffer much before expecting sympathy. I said I was suffering much and promptly sat down on a rock.

At this the man who had given us the chocolate suggested that we should take the saddle bags off my mule and put them on Bernardino's, and that I should ride.

"It is better that the mule should suffer rather than you," he said.

I agreed and, mounting the mule, rode up the remainder of the way. The path was not really too steep for riding, but at this height the mules themselves suffer a good deal. At the top where I expected to find a shelter in which to lunch there was nothing but a heap of bones, the remains of animals who had died while crossing the pass. A ruined wall and a cross offered no protection from the cold wind which cut through us, and we hurried down the other side into a valley as desolate as the last slopes over which we had climbed. I had been told that the views were magnificent on top of the pass, but clouds had gathered, the glaciers and snow peaks were hidden and all I saw was bare rock, sparse tufts of grass, and an occasional Dominican vulture skimming through the mist.

After going down about a thousand feet we saw a hut on the slope of the hill a little way from the path. We rode down towards it and, dismounting, squatted down on the turf between the rocks to eat the food we had. Our friend went to the hut to see if anything was to be had there and came back with a plate of hot meat and potatoes which he offered me.

"Friendship is a useful thing," he remarked as he watched me making an effort to eat.

I soon passed the plate over to him and he finished it. I was too tired to eat, but demanded boiling water for tea. I was told there was none to be had in the hut, but I said where there was

a roof there must be a fireplace, and where there was a fireplace water could be boiled. Anyhow it was too cold to sit on the hillside and I was going inside the hut.

The doorway was only about two feet high, and when I crawled through this I found myself in a dark room without windows and full of people, travellers like us on their way to Cuzco. There were also two Indians carrying packs of coca; one was the man who had cut fodder for us the previous night.

There was of course a hearth, and at my demand brushwood was thrown on it and a fire built up. Water was brought and boiled in a tin can and I soon had a mug of tea, into which I poured some of Bernardino's rum. I also ate some crumbs from his cakes of molasses as this is said to be good against *soroche*.

The people in the hut all asked me questions about where I was going and what I thought of the country, but I answered rather at random. After I had drunk the tea we all crawled out of the hut and I climbed on to my mule's back again. The other travellers, of whom two were women, one with a baby, mounted their mules and we all moved off down the trail together. Almost immediately the tea and rum began to take effect and I felt comparatively fit.

The sun was now shining and vegetation began again. We entered a canyon with precipices thousands of feet high on each side of us and houses perched in some places on the extreme edge. We splashed through a stream where we let the mules drink and went on down to trees and pastures in growing warmth, discarding ponchos and cloaks as we went. Some of the trees were a new kind to me. They had twisted trunks with a reddish bark peeling off like arbutus, and small white myrtle-like flowers. The pointed leaves also resembled myrtle.

Lower down among the pastures were many Inca ruins, and

far ahead we could see the sunlight gleaming in the valley of the Urubamba. We were in the shadow of the canyon and went down hour after hour towards the sunlit valley ahead. The track was steep and stony, but the mules recognised it as the homeward way and we had no need to touch them with whip or spur. They plunged down recklessly as fast as they could go, and we soon left all the other travellers behind. We crossed the stream and went along a more even path on the other side with the bright opening into the valley still ahead and growing only a little wider. I was half asleep for some time before we reached it, but we did so at last and bore round to the left towards Ollantaytambo, still a league away.

We had to pass the mules' home farm on the way, and here they suddenly began to display the low manners of their mother's family, rearing and trying to crush us against the walls. I sympathised with my mount, as she had been carrying me for twelve hours, but I spurred her on nevertheless. Bernardino's mount had bolted into her stable and he had to lead her out.

With relief we saw the Inca walls of Ollantaytambo rise against the skyline, and at length as dusk was falling rode up the village street to a house where I was told a bed was to be had. It was in fact a luxurious camp bed, and I watched a small boy lay clean sheets and several blankets on it. Then after a pretence at supper I tried the bed and found it so good that I slept for twelve hours.

CHAPTER XIX

LAKE TITICACA

THE ruins of Ollantaytambo are some of the most extensive in Peru. They are named after the legendary chieftain, Ollanta, who, according to an ancient drama in the Quechua tongue, rebelled because the Inca would not give him his daughter in marriage. A daughter was born to the pair during the war, and the Inca princess was imprisoned by her father in a dungeon underneath the Temple of the Virgins at Cuzco. Ollanta was at first successful, but after the death of the Inca and the accession of his son, Ollanta and his followers were captured by a ruse. The rebel chief was pardoned and restored to his honours, and the drama closes with the discovery by the daughter of her mother in the dungeon and the princess's restoration to her lover.

Ollanta was supposed to have had his headquarters at Ollantaytambo, a fortress used by the Incas to defend the sacred valley of Vilcamayu and their residence at Yucai from the northern tribes.

During the last insurrection of the Peruvians against the Pizarros, the young Inca, Manco Capac, took up his quarters at this old stronghold of his race. Hernando Pizarro attempted to surprise him there and carry the fortress by night, but was beaten off and had to retreat across the river and through the defiles to Cuzco.

The ruins at Ollantaytambo stand on the steep northern side of the valley of Vilcamayu (or Urubamba) at a place where a ravine issues into it forming an angle or salient, on which

the works of the fortress are placed so as to command a wide extent of ground below. On the opposite face of this side ravine are some blocks of small houses built on almost precipitous slopes. The most reasonable explanation of their presence at such an inaccessible spot, is that they were look-out posts.

The chief feature of the main work as seen from below is a long wall descending the hillside in a series of steps. Outlined against the sky this has a very modern appearance and it is difficult to believe that it dates from a pre-Incaic age.

As one climbs the steep slope of the hill up a staircase cut out of the rock, one comes to walls built of more or less regular blocks of stone, carefully fitted together. One long wall in a good state of repair has eight niches in it and at the southern end is a perfect specimen of an Inca doorway sloping inwards as it rises towards the huge lintel stone. Other gigantic blocks lie scattered round, some of them with projections or ridges left on their smoothed surfaces.

The largest blocks stand on end in a row, and between them are narrow slabs only a few inches wide but as tall as the large blocks. The insertion of these narrow strips of stone between the others, make the wall look from a distance as if carved. It is believed to have formed part of the central palace.

Above the fort are other buildings, called the Intihuatana, meaning the circle and pillar used for observing the equinox. The pillar has gone but the walls of the buildings remain. The corners of the walls and doorways have holes drilled in them as if for the passage of a chain.

In the side valley below are steps cut in the face of the cliff leading up to seats or altars.

Bernardino showed me the ruins, making up in enthusiasm for what he lacked in knowledge. He told me, as we sat on one of the altars, that the Incas could move the heavy stones

about by simply lassoing them. They could make the sun stand still, and in fact do almost anything.

Coming down from the altars, we visited the Inca's bath in a field close to the village. The bath has carvings over it, said to be in the ancient Tihuanacu style. The whole village of Ollantaytambo is built on Inca foundations and there are sloping stone doorways to many of the corrals.

I took farewell of Bernardino at the station and left by the afternoon train for Cuzco. At the junction we met the train from Urubamba and connected with it. The valley in which Urubamba lies forms part of the vale of Yucai where the Incas had one of their favourite summer palaces. Yucai is called by Sir Clements Markham the most beautiful valley in the world. I went up it as far as Urubamba, but saw little to warrant such high praise, although I was told it has a very different appearance in spring when the peach orchards are in bloom and the hillsides are green with the corn for which Yucai is famous. The hills are bold, rising to crags, and here and there rifts in them show snow peaks and glaciers beyond.

From Cuzco I took the train back to Juliaca and then on to Puno, the Peruvian port on Lake Titicaca, intending to cross the lake next day to La Paz. Two German cinema operators who were also going to cross said we could sleep on board that night and insisted on being carried to the harbour station. The railway officials made some demur, but at length transferred the three of us to a special van and took us down to the mole where the steamer "Inca" was berthed.

These steamers the "Inca" and the "Coya" (Queen) were built in England in sections and put together at the lakeside after their long journey over ocean and mountain. They are about 800 tons burden and are as well found and trim as any ship could be. We soon found ourselves in cabins of surpris-

ing cleanliness, and a little later sat down to a hastily prepared meal of bacon and eggs in the saloon. We might have been on a Channel steamer at Dover or Boulogne instead of in this great cup of the Andes 12,000 feet above sea level.

The basin in which Titicaca lies forms a huge plateau between the Eastern and Central Cordilleras. It is closed to the north by the knot of Vilcanota, the mass of snow peaks between Juliaca and Cuzco which at this point unite the two ranges. To the south the water of Lake Titicaca, now shrunk to the lowest part of the plateau, discharges into the Desguadero River, which flows across the plateau into the lake of Poopo, a hundred miles away in Bolivia. There is no outlet either into the Amazon or the Pacific. The water of Lake Poopo disappears in the sand.

Before sunrise next morning the German cinema men and I were out looking for balsas. These strange craft are built of bundles of reeds bound together. The ends of the bundles are tied so as to form a prow and stern, and a square sail, also of reeds, like a rush mat, is hoisted on a frail mast. This consists of two poles joined at the top and fastened at each side of the boat so that they serve the double purpose of mast and shrouds. Two strings lead forward from them as stays, and two other cords at the sides of the sail and leading to the stern form sheets, enabling the vessel to sail with a beam wind. A long paddle is used as rudder.

These balsas usually come in to Puno with the easterly morning breeze from the two headlands at the entrance to Puno. The Indians from the north shore come to the north side of the mole and talk Quechua. Those from the other shore come to the south side by the railway line and these talk Aymara, the language of the Bolivian Indians. The women on this side wear small round felt hats and plait their hair in several small

pigtails. The men are said to wear pigtails also, but all those I saw had their heads covered by the woollen caps reaching down over the neck and ears.

Several balsas were drawn up along the side of the mole, and some were sailing in from across the bay. As they neared the shore the sail came down with a run and the balsa slowly came to her berth against the bank. The women took their bundles of frozen potatoes and hurried off with them to market.

Soon after sunrise the train from Mollendo was seen running round the shore to the north, and in a little while it arrived and the quiet mole was for a few moments thronged with people, some looking fresh and happy as they stepped out of sleeping cars, and others looking tired after sitting up all night. A band was on board and played patriotic airs on the quay, for a Peruvian diplomatist, fresh from Arica, was on the train on his way to Buenos Aires.

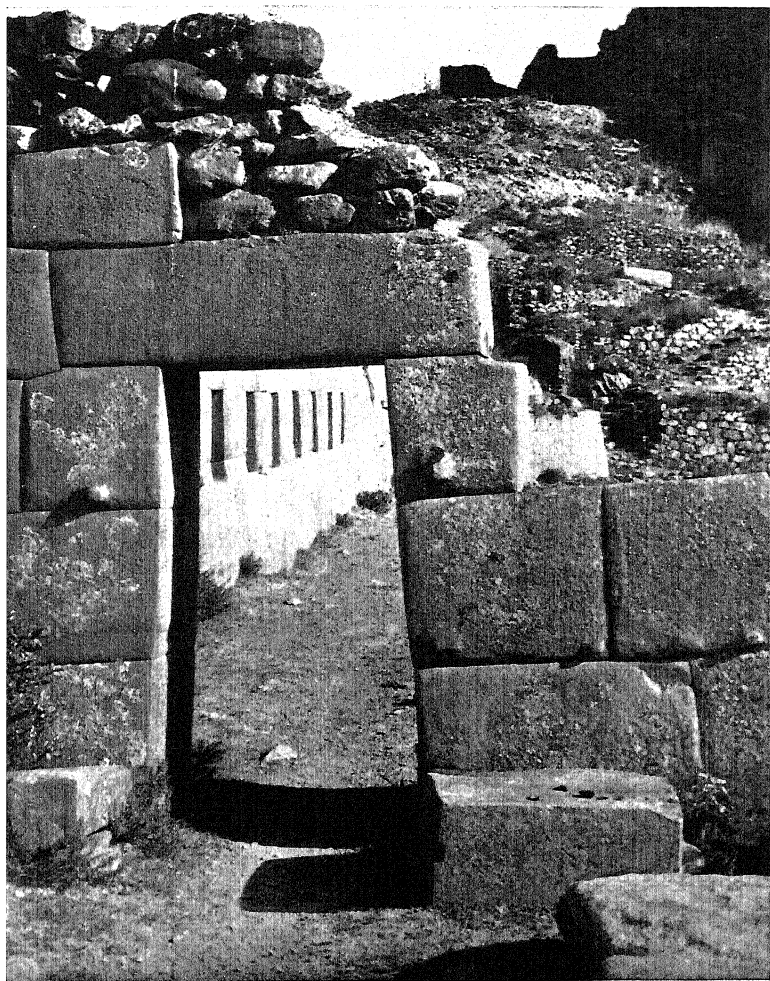
We sailed at 7 o'clock in a south-easterly direction down a narrow, dredged channel between reed-grown, mud banks. As our screws sucked the water from the banks the waterfowl were left high and dry on them and then as the wash returned the water caught them and floated them off again. The commonest bird was the small dark-brown grebe with a white patch on its cheek which I had seen at Lagunillas. There were also herons, cormorants, many gulls and some birds like black curlew which were no doubt the black ibis reported by previous travellers.

At the end of the shoal, marked by two light beacons, we turned east towards the passage between the headlands. We could see the broad water of the main lake shining beyond, and as we drew towards the southern shore we could see distinctly in the clear air the cottages, trees and shocks of corn upon the bank. The level sun struck the fringe of tortora reeds, from which the balsas are made, as they swayed in a morning breeze

PLATE XXIII.

OLLANTAYTAMBO.

Doorway and wall of squared stone. The use of the knobs on either side of the door is uncertain. The seven openings in the wall beyond are niches, probably for the reception of idols.



near the shore, and the whole scene with the patches of green among the prevailing yellow of the hills, the blue sky overhead and the blue water below, made a picture which one wished the camera could record.

On passing the bluff at the point, the island of Taquile opened up ahead, and beyond, over the great expanse of water which now lay before us, rose into view the gigantic snowy mass of Sorata or Illampu. It was so far away and so raised above the lake and the other mountain tops round it that it looked as if floating in the sky.

We now changed course for the south-east, passing between Taquile and the shore and heading for Titicaca Island (The Island of the Sun) which has given its name to the whole lake. The sun, well risen above the horizon, made the forward deck quite warm, and with the wind astern we soon forgot the coldness of the night. The water was almost smooth and was as blue as the cloudless sky. The rocky, almost treeless, islands all round, set in the blue water, reminded me of the *Ægean*. As the passengers one after the other laid their coats aside and basked in the warmth, one realised the origin of the sun worship, which, beginning at the island ahead, spread under the sceptre of the Incas, the Sun's own children, over the whole vast empire from the equator to the south of Chile. At this altitude no one can forget that the sun is the source of life. The nights are made wretched by his absence and comfort only returns at his rising. Should he disappear behind a cloud, if only for a moment, one is immediately chilled.

The striking of the bells every half hour was the only sound that broke the silence as we approached the Island of the Sun, now rising from the mirage which had made it look as if suspended in air, and appearing as solid rock and cliff upon our port bow. One or two villages could be seen upon the shores

of the mainland, but they were dots against the great sweeps of bare mountainside behind them. In this strange region, cut off on all sides by snow and ice from the world below, the little ship, gleaming with polished brass and white paint, seemed as if sailing on a phantom sea. One was almost surprised to see flecks of spume where the cord of the log cut the surface of the water. The log was lowered from a boom at the side of the bridge and the brass screw could be seen from the deck revolving below, so clear is the water.

The greatest depth of the lake is unknown. The captain told me he had sounded to 200 fathoms off the Island of the Sun without reaching bottom. This is believed to be the deepest part. The captain was making a chart of the lake, for no reliable one now exists. He said he had found many errors in the maps. So far he had done little more than ascertain the true bearings and heights of the shore and islands. He had little opportunity to take soundings except on his regular course.

Navigation is not always the simple affair it was on the day we crossed. Winds rise suddenly and are tricky, sweeping down from the hills first from one side and then from the other, so that the seas are broken and irregular. Balsas keep close to the shore except in settled weather, and motor launches run for shelter at the approach of a storm. Heavy seas are met with, and the captain told me they frequently broke over the upper deck in the wet season. On one occasion, not long before, the "Inca" had to shelter under the lee of the Island of the Sun, remaining there at anchor for some hours until the weather moderated.

Soon after midday we closed with the Island of the Sun and coasting along its western shore saw jagged black cliffs, against which some surf was beating. Broom yellowed the cliffs and there were signs of cultivation among the hills in the interior.

It was here that Manco Capac and Mama Oello, the first children of the Sun, were believed to have appeared upon the earth, and from here that they journeyed north to Cuzco carrying the golden wedge. The island was one of the most sacred places under the Incas. The ruins of several palaces of the Incaic and pre-Incaic periods stand near the shore, and near one of them is a terraced garden called "The Garden of the Inca" containing a bath, scooped out of the rock. Near the bay of Challa is the most sacred spot on the island, the so-called Sanctuary of the Rock. This is a natural rock about 25 feet high standing on a ridge about 300 feet above the level of the lake. Nothing is known as to the rites which took place here, and the rock is not carved or cut in any way. It is called in Aymara "Titi Kala" (Wild Cat Rock) from the appearance of certain veins upon it, and the name of the island and lake appear to be derived from this rock, the focus of Inca worship.

Titi, the feline god, who seems to be the jaguar of the montaña or the puma, appears on the early ceramics and carvings in all parts of Peru. According to Dr. Julio Tello, the leading authority on prehistoric Peru, this god Titi is the chief hero in the legends which relate the birth of the Indian race. Statues of him are found in which the god is idealised, becoming partially human. Finally his powers are identified with those of the sun and so begins the sun worship of the Incas.

This explains why the children of the sun, the first Inca and his wife, are believed to have come from the island of Titicaca, where the god's face appears upon the rock, and why the island is called either "Titicaca" or the "Island of the Sun."

As we rounded the south-western point of the island and entered the channel between it and the peninsula of Copacabana we saw, through the opening beyond, the smaller island of Coati, the Island of the Moon, sacred to that deity and also

the seat of religious ceremonies. The captain told me that the Inca lived on the Island of the Sun and kept his wives on the Island of the Moon, and it is in fact supposed that numbers of the so-called "Virgins of the Sun" were kept on Coati. It is unfortunately difficult to visit either island except with a party large enough to charter a special steamer from Puno.

Over the Island of the Moon the peaks of the Eastern Cordilleras were now visible. There are snow summits all the way south along the range from Sorata in the north-east, but the crests rise to their greatest splendour again at Huaynapotosi, nearly 20,000 feet high, which lay immediately over our bows as we rounded the north-eastern point of Copacabana Peninsula and turned south-east along the shore. South-east of Huaynapotosi, gradually receding into dim distance, were the peaks of Challacayo, Hampaturi, Mururata, and finally Illimani immediately behind La Paz. This enormous giant of 21,000 feet was as yet so far away that it had no roundness but hung like a flat silver shield in the sky.

The lake here narrows to a strait less than a mile wide, across which the villages of San Pablo and San Pedro face one another. Each consists of a few white cottages set between the hills and the rocky shore, with a few barley and potato fields round them, some trees, and two or three boats drawn up on the beach. As we passed, a little craft with a white sail was putting out for San Pedro to cross the strait to San Pablo. In the fields the shocks of corn were set in rows and we could see people working in the fields. Between trees in the background gleamed the white walls of a finca, or farmhouse, to which no doubt the land surrounding the village belonged. Higher up on the bare hillside were a crowd of poncho-clad Indians, but whether they were dancing or working we could not tell.

On issuing from the strait the steamer enters another great

lake called Huinamarca which has several low islands on it. One of these, Anapia, which is left to starboard, is dotted with thatched huts, and on Suana to the south are many cattle and black sheep and a few low trees. The stones appear to have been collected and laid in rows on low walls between the fields to leave room for cultivation. This gives these low-crowned islands a strong likeness to those off the coast of Dalmatia.

At sunset the effects of light were marvellous. As we passed the south-western point of Suana and saw past its eastern shore far across the lake to the east, a balsa was crossing in the middle distance, and the low sun caught its reed sail and made it golden against a background of low hills, whose colours, softened by light cloud, shaded from black through tones of grey to red and purple. Above them Illimani now shone as a solid mass, comparable in general form to the Jungfrau, and every moment changing from pure white to pink and deep rose in the light of the setting sun. The sky behind softened from deep blue through shades of violet to lavender.

Over the stern as the steamer rounded the last promontory and headed east for the lights of Guaqui the toothed peaks of the Central Cordillera rose black against a fiery sky. Before we berthed the first stars were out and as darkness swiftly followed they flashed so bright that Jupiter, low in the east, looked like a light on shore. Across the zenith the Milky Way lay like a ribbon of white cloud.

CHAPTER XX

FROM HILLS TO THE SEA

FROM Guaqui a railway, owned like the steamers by the Peruvian Corporation, carries one in three and a half hours across the tableland of Bolivia to La Paz, the capital. At Tiahuanaco, now six miles from the lake but formerly upon its banks, are ruins quite different from any others in Peru or Bolivia, evidently belonging to a remoter past. Their most remarkable feature is the elaborate nature of the carvings. These include a finely sculptured portal, decorated with condors, pumas and other designs in low relief. The doorway is itself cut out of one huge block of hard trachytic stone. Several large human figures remain in a more or less battered state, and these resemble the statues of Easter Island, like a small wooden idol I saw in the museum at Cuzco.

As the train stops at Tiahuanaco crowds of small boys rush into the cars carrying "antiques" which they thrust into the hands of passengers. At the slightest show of interest in these rudely carved figures of human beings and animals the boys refuse to leave one's side till the train has actually started. One may then buy the finest of their trophies for five or ten centavos.

It was of course quite dark as we crossed the tableland, but it is in daylight the bleakest and dreariest place imaginable, though it is not actual desert, and dwellings dot the plain, surrounded by cultivated land. On the return journey I saw women threshing with flails at one of these farms.

The line rises gently to the station of Alto from which point

it is electrified. Here the tableland comes to an abrupt edge and one suddenly sees far below the lights of La Paz.

The gorge in which La Paz lies has been hollowed out by the river from the sandy tableland. The sides are steep, in places precipitous, and the railway lines, of which there are two, descend in a series of sharp curves. All the while the lights grow nearer and brighter and at last one comes down to their level and runs into the station.

The first impression of the city, as one is whirled through it by car to the hotel, is one of fine buildings and clean streets with a brightly lit plaza at the end of the journey. It feels almost as cold in the city in the month of July as on the heights above, and as none of the buildings are warmed, owing to the idea that heated air brings pneumonia, visitors are usually glad to go early to bed and lie there till well after sunrise.

As the sun rises above the mountains and strikes down into the streets life becomes bearable again in La Paz, even in winter, except for the people who suffer from the altitude. The city is built on the slopes of the valley on both sides of the river and all the streets run up and down hill. A very short walk up hill makes a visitor pant for breath, for the city lies 13,000 feet above sea level, being the highest capital in the world.

I spent only a week-end in La Paz, but Sunday appears to be the best day there for those who are interested in peasant costumes. More aniline dye must be used in La Paz than in any other town of its size anywhere. The favourite colour for ponchos, skirts and capes is a brilliant orange, but equally vivid greens, purples and reds are all popular. The dyes are exposed for sale in the market in rows of little boxes, which I took at first to be native medicines, to the huge delight of a girl vendor. I thought the peasants here more affable and smiling than the

PLATE XXIV.

TITICACA.

A balsa built of reeds, with a reed sail.



Quechua Indians further north. They showed fewer traces of abject poverty and wore what might be termed finery, not rags.

In contrast with the brilliant costumes around them, two handsome Cholas looked elegant all in black. They wore short skirts and shawls with flowers worked on them in black silk. Hats, stockings and shoes were also black, but the hats had silver buckles at the side.

Most of the women wore too many skirts and petticoats to appear graceful, and the regulation hats are severely plain. These are either small and round, made of felt and shaped something like a bowler without ornament or colour, or white straws with an exaggerated crown about a foot high. These are cocked slightly at the side of the head and to any newcomer look simply ludicrous—not so ridiculous of course as the hats with which European peasant women attempt to follow the fashions of Paris. The high-crowned straw, is, I believe, a mark of social superiority compared with the felt.

I don't think any La Paz woman would dream of wearing two hats as the peasants of Central Peru often do. When a girl goes to market and buys a new hat she claps it onto her head over her old one and so rides home, looking a figure of fun, but not caring at all, so lacking is she in the instinct of self-respect. I have even seen a man begging to be allowed to travel by train without a ticket, and attempting to look pitiful while wearing his wife's hat on top of his own. No wonder the station-master laughed.

Every part of the Bolivian woman's dress is as elaborate and highly coloured as the hat is plain. A bodice is worn highly ornamented all over with velvet embroidery. Only the sleeves are seen on account of overlying shawls. These are of one colour, orange or green homespun, and are pinned at the breast with silver pins. From the pin hang silver fish on chains. The

fish are made in sections which allow the body to bend with the natural motion of a fish.

Over the shawl is the *quepi* in which goods and babies are carried on the shoulders. This is often made of brilliantly striped cloth. If a baby is carried it is not simply rolled up in the *quepi* as in poorer parts, but wrapped up first in a special kind of shawl, of which numbers are for sale in the shops. The shawl is white and trimmed heavily with bright green or purple velvet; usually it has a white silk fringe and is wrapped round the baby in such a way that part of the shawl hangs down from the *quepi*. I saw one of these shawls in use which had lace embroidery with pink ribbons.

Shoes of all kinds are worn, many of them high-heeled. I saw one woman in full peasant costume wearing a pair of fashionable yellow boots, and another wearing patent leather shoes over bare legs.

The men were mostly bare-legged. Their ponchos were as brilliant as the women's shawls and skirts, and their woollen caps, worn, as at Cuzco, under the hat, were bright orange, green or red.

The market overflows from the places set aside for it and occupies many streets. The women sit at the sides of the road with their wares in front of them, and at every corner one is puzzled which way to turn, so inviting is the prospect. One street in particular drew me again and again. It is the street of the fruit sellers and runs up from the lowest part of the valley on its southern side, so that the light of the mid-morning sun strikes it. As one descends another street on the opposite side of the valley one sees the line of fruit sellers ahead, each one as vivid a patch of colour as the melons or tomatoes in front of her. Between the two lines of fruit a many-coloured stream of buyers is passing. The fruit includes semi-tropical kinds

from the montaña, such as chirimoyas, bananas and oranges. They are exposed for sale in a kind of nest of hay. The hay is enclosed in a net made of hide thongs for transport on mule back.

In another street I was surprised to see flowers being sold. There were marguerites, sweet peas, broom, forget-me-nots, violets, red flowers whose name I do not know, and arums, the last rather faded. In this same street were women knitting woollen bonnets and exposing them for sale on boards, and others with the silver brooches for the women's shawls. Bargaining with these women was a pleasure, as they were so genial and seemed to consider the whole transaction as a joke.

I noticed very few sellers of coca and not many with native medicines, but whole streets were devoted to articles of clothing—shirts and other garments being laid out on ponchos on the pavement—and other streets to hardware, grain and vegetables, particularly frozen potatoes. A few small green peas were on show and maize cobs about an inch and a half long. Meat and bread were sold by women who wore white aprons and carried an identification number.

The other centre of life in La Paz on Sunday morning is the Plaza, where the band plays and the crowd promenades up and down the pavement on the north side. They march two by two from one end to the other, and then make a right wheel, following the couple in front of them, and slowly march back. The marchers form a continuous chain and the pavement is crowded with them. Everywhere else there is plenty of room, but the custom of La Paz ordains that the north pavement near the bandstand is the place to walk at midday until the sun goes behind the roofs to the north. In the evening the marchers cross the road to the side of the houses.

Other people sun themselves on the seats in the square, and

the chola women sit on the steps of the statue in the centre. The band plays well, and for an hour or two La Paz seems a warm, pleasant place. One can admire the great shape of Illimani rising white and glistening over the roof of the Parliament House, without fearing the icy winds which sweep down from his glaciers.

A favourite resort on Sunday afternoon is a place called Obrajas, a few miles down the valley. From here one has a view of the extraordinary scenery surrounding the city. Away from the river valley the country is completely desert. The sides of the gorge rise steeply and are furrowed by deep channels made by the summer rains. In many places earth pinnacles have been left as the soil all round has been washed away; they stick up like the fingers of a hand, bare and yellow without even the trace of a cactus upon them, and make a landscape so weird that it seems as if imagined by Dante or Milton rather than solid earth.

There is a small pine-planted park at Obrajas and some open-air cafés which fill during the afternoon as trams, motor-buses and cars bring out the parties from La Paz. During the afternoon strings of donkeys and mules pass through on their way back from the market. They wind down the valley and disappear between the craggy walls at a turn of the road. By following this valley down far enough one can reach the montaña and the Amazonian forests.

Directly the sun sets the temperature falls rapidly and one should have an overcoat at hand. Otherwise a chill is certain, with the likelihood of pneumonia. In cases of pneumonia the patient's friends should carry him to a lower level at once, chartering a special train if necessary, for one has little chance of life at this altitude. An Englishman was being nursed through pneumonia when I was at La Paz and was said to be

over the crisis, but when our ship reached Panama a fortnight later we heard that he was dead.

Without much regret I left this city of frost and thin air and recrossed Lake Titicaca to Puno, where I spent a day and a night by the lake side trying in vain to borrow a launch to explore its surface. Puno itself offers little to the visitor, but it is a clean little town and at the time of my visit had two electric-light installations, one Italian and one Turkish. The Ottomans, of whom there are many in Peru, had imported German machinery but no German mechanic. After a few months, to the Turks' surprise and the town's disgust, the machinery refused to function and the lights went out.

My visit to Puno was made the more pleasant by the hospitality of a Scotsman whom I found teaching in the school there. The trade of the place seemed largely in the hands of Italians, all very cordial and friendly. Some confessed that after a lifetime at Puno they found it hard to adapt themselves to Italian ways on their rare visits home. Others were only waiting to sell their property to retire to Genoa or Turin.

At Puno one may see furs made from llama, alpaca and vicuña skins and ponchos and rugs hand-woven from vicuña wool. Chinchilla skins are rare but I saw a few specimens. Foxes, wolves and deer are common, and one may occasionally find a bearskin.

Here I heard more stories of "tapadas." These have nothing to do with the veiled women of Lima. "Tapadas" nowadays mean secret hoards of gold, buried in the ground. In the disturbed days of the Conquest, and afterwards before banks had come up into the sierras, or before they were trusted, people naturally hid their wealth, and many died without revealing the hiding place. Consequently everyone in these old hill towns is on the look-out for buried treasure. While I was at

Cuzco a man digging a drain in the street struck the lid of an old chest. With great wile he hired a ground-floor room in an adjoining house and dug out his find. To his disgust, however, it turned out to be not a tapada at all but a "huaca," that is, an ancient grave. This one yielded pottery interesting to the Museum, but not at all to the seeker after gold.

One tapada unearthed at Puno had made the fortune of an Indian family and turned the head of the wife, so that she actually died a few months afterwards in a madhouse. On another occasion, a gold bar was discovered by a ploughman who took it to his master, a half-caste. The farmer said he recognised the bar as part of a plough which he had lost the year before, and gave the man a bag of coca as a reward. Other bars were found after further search, and, it is said, were smuggled to America in a schoolboy's luggage. The boy was being sent to college in the United States, it was given out, at great sacrifice on the part of the parents. When I was at Puno the family had fine horses to ride and fine clothes to wear, but the shadow of the law was falling over them, for in Peru half the value of treasure trove belongs to the State.

Usually there is no train from Puno to Arequipa between Tuesday and Saturday, but I found a freight train was going down and obtained permission to travel by it. Luckily for me some important people had come up in a special first class coach the day before, and this was being sent back to Arequipa. I shared it with the conductor from before dawn till long after nightfall. From 4 A.M., when we left Puno, till the sun rose, we sat shivering in our ponchos, but when the first rays shone across the pampa and fell upon the train we went out and sat on the platform at the back where it was soon warm. All the streams and pools were covered with ice, but before midday we were over the highest part and were running down towards

Arequipa, stopping frequently to shunt wagons and once for lunch. The train staff had two ample courses for fourpence, and I, being given a tablecloth and a currant turnover, was only charged double.

About nine o'clock we reached Arequipa where it was a luxury to feel night air without frost in it. Every one who has come down from La Paz is happy and contented at Arequipa. Cracked faces and hands began to heal and many who suffered from bad nights now found that they could sleep.

In a few days I was dangling from the crane at Mollendo quay, and in a few minutes more stood on the deck of a ship bound for New York. Mist hung over the hills as on the day of my landing and followed us all the way to Callao and Payta. I saw the shores of Peru slipping away with regret, for beyond them were many places I had been unable to visit and many friends I was unlikely to meet again.

As we left the cool Humboldt current at Payta and steamed north past the oil wells of Talara towards the Equator, I considered what one might say was the chief impression left by a few months travel in Peru. I think it is that of a country still living in the memory of a great past and hardly yet awake to the possibility of a still greater future. Climate of course is one of the mainsprings of character, and in South America, as in Europe, the higher latitudes are apt to breed the most energy, as any Scotsman will tell us. The coast of Peru lies close enough to the Equator to be enervating, and the Englishman's walk is said to slow down, after a few months in Lima, to the pace of the Limeño. The hills should produce hardy stock, but in Peru this stock is Indian, less mixed with Spanish than along the coast. The passive character of the Peruvian Indian is well known, and indeed without it the rule of the Incas would have been impossible.

It is to the people of Spanish and mixed descent that Peru must look for the enterprise to develop her enormous resources. Hitherto Peruvians have been content with the revenues from their haciendas, leaving the mines and oilfields to foreigners. In a commercial age they have preferred the life of country gentry to the greater monetary rewards of trade, and have retained, in the brusque and hurried twentieth century the leisured and courtly manners of old Spain. This is curious in a land where the craze for gold led to acts which shocked the world and have made the very name of Peru synonymous with enormous wealth; but it may be again the influence of climate which has transformed the descendant of the conquistadores into the Peruvian of to-day. His standard of values, in which an agreeable and care-free life is set higher than great wealth, is not far off that of the Peruvian before the Spanish Conquest. So, either through the influence of climate or heredity, the Incas have set their own stamp upon their conquerors.

How long this outlook is likely to last as Peru is brought more into contact with the rest of the world it is unsafe to say. Every year more tourists visit the country and Peruvians see money being spent in the wholesale modern fashion. Faster and finer ships enter their ports and carry some of them off for a few weeks or months of pleasure in Europe or North America. It may well be that a desire will arise among the non-landowning class to exploit the wealth which lies buried in the country, and that in the future Peruvians will take a larger share in its development, and foreigners less.

If this comes about one can only hope that something of the spirit of old Peru will remain, that all the old colonial houses will not be pulled down to erect factories, and that the gringo will still meet with the welcome and ready friendship now extended to him in the most hospitable of countries.

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